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STUDY OF SOURCES IN AFGL ROCKET INFRARED STUDY

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- 4) To classify the sources so that the content of the Catalogue could be used as an unbiased sample of infrared sources. ↑

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## FINAL REPORT

F19628-76-C-0287

The observation program reported here had the following goals:

- 1) To identify AFGL sources to test the reliability of the Catalogue as a list of infrared sources.
- 2) To measure the infrared energy distribution of these sources to test the reliability of the Catalogue magnitudes.
- 3) To assess the effects of variability on magnitude intercomparison.
- 4) To classify the sources so that the content of the Catalogue could be used as an unbiased sample of infrared sources.

In the interest of completeness we have included data taken prior to the contract period with similar photometric systems. These sources of data are listed in Table I.

TABLE I  
Additional Data Sources

- 1) Gillett, F.C., Merrill, K.M., Stein, W.A., 1971, Ap. J. 164, 83.  
(Identified in Table IX by Date: 70/00/00 Obs: 4 Sys: 14.)
- 2) Strecker, D.W. and Ney, E.P., 1974a, A. J. 79, 797 (IRC Anonymous; 1974b A. J. 79, 1410 (CIT's).
- 3) Data from Chile runs (Southern IRC Anonymous).
- 4) Unpublished data of E.P. Ney.
- 5) Unpublished data of K.M. Merrill.

### Scanning Techniques

After considerable experimentation, we decided that the most reliable method for searching for AFGL sources that was consistent with the available facilities employed manual, rather than automated, scan techniques. Manual rastering of AFGL position error boxes was carried out using digital position readouts or by actually (offset) guiding on the field viewed through an image intensifier. Sources fainter than those found by automated scan techniques were found, since any indication of a source could be immediately

checked. Noise spikes and apparently non-interesting stellar sources could be further tested immediately as potential AFGL source identifications.

Most scans are done at wavelengths less than 4  $\mu\text{m}$ , since the available photometric systems are most sensitive at such wavelengths, especially when the larger apertures necessary for efficient scanning are employed. Since sources with very cold color temperatures (e.g. AFGL 20  $\mu\text{m}$  detections) are difficult to detect at shorter wavelengths, a comparatively low success rate was anticipated. Scans at 20  $\mu\text{m}$  will ultimately be necessary to reliably search for the AFGL 20  $\mu\text{m}$  sources.

Generally speaking, error boxes with dimensions of at least 2 standard deviations from the mean were searched. North-south chopping of tangent beams at 5 or 10 Hz and short ( $\sim 100\text{ms}$ ) time constant on the lock-in amplifier were found to be generally effective for finding sources of size comparable to or less than the beam.

In general, the ground-based observations reach flux levels significantly below those of the AFGL Survey (at least at 4 microns). Since relatively large areas of the sky are searched, often in the galactic plane, some degree of source confusion is to be expected. The sources most suspect are the faint ( $\sim 5$  mag) sources with energy distributions of Rayleigh Jeans' shape. On the other hand, sources not found (NF) by scanning may be quite real. From our own experience we have found some sources to be extended (e.g. GL416, GL3053) and hence difficult to detect by scan techniques using tangent beam spatial chopping. Further, the source may have colors which make detection impossible at wavelengths below 20 microns. For example, a hotter component of GL2636 was found by scanning at 3.5 microns, but the associated bright 20 micron source was established unambiguously only by the 20 micron measurement.

#### Classification of AFGL Sources

A fair ranking in order of decreasing confidence of methods used to classify an infrared source would be:

- 1) Optical spectrum of well-established visual counterpart,
- 2) Infrared spectrophotometry,
- 3) Infrared photometry.

Since few non IRC sources in the AFGL appear to have optical counterparts, infrared methods and associated radio phenomena must often be employed in source classification. Several types of sources are both readily identifiable and inherently interesting as will be discussed below.

#### A. Late Type Stars

For late type stars the relatively strong dependence of molecular abundances and opacity on temperature surface gravity and relative C/O abundance permits at least a coarse separation of K, M, S and C spectral types and in some instances may suggest that the source is a supergiant. The marked differences in photospheric absorption bands for various types of late type stars is shown in Figure 1. The actual criteria for classification are documented in Merrill and Stein (1976a), Merrill (1977), and Merrill and Ridgway (1979). Molecular features at wavelengths of 2-4 microns and particulate features at wavelengths of 8-14 microns are useful in identifying late type stars. In a number of instances spectra in both wavelength intervals are necessary for proper identification. Spectrophotometry of representative "oxygen rich" ( $O/C > 1$ ;  $\sim$ solar abundance) M stars is shown in Figure 3. The observed range in optical depths for circumstellar dust envelopes is spanned in these figures. Note in particular that molecular absorption features are still recognizable even when the star is imbedded in a dense circumstellar envelope. In these figures the systems with envelopes of largest apparent optical depth are AFGL Survey sources.

#### B. Molecular Cloud Sources

Molecular clouds as sites of recent star formation are often found to contain compact cool infrared sources which include protostars, pre-main sequence stars and compact HII regions. Often, radio observations have subsequently led to the discovery of infrared source complexes requiring detailed mapping. Such sources appear to have one distinguishing characteristic in common - the presence of varying degrees of  $\lambda 3.07\mu m$  "ice" band

Merrill, K.M., Stein, W.A., 1976a, Pub. A.S.P. 88, 285.

Merrill, K.M., 1977, in Proceedings of IAU Colloquium 1142, "The Interaction of Variable Stars with Their Environment," Veroff.Bamberg 11, (12), 446, (R. Kippenhahn, J. Rahe and W. Strohmeier (eds.)).

Merrill, K. M., Ridgway, S. T., 1979, Ann. Res. Astron. Astrophys. 17, 9.

absorption. To date, this band has only been seen in the spectra of sources intimately associated with molecular clouds. The infrared spectrophotometry of selected molecular cloud sources seen in Figure 4 illustrates the lack of correlation between  $\tau_{3.1\mu\text{m}}$  due to ice and  $\tau_{9.7\mu\text{m}}$  due to silicates investigated by Merrill, Russell, and Soifer (1976). GL 490, GL 2591, and GL 2136 are AFGL Survey discoveries.

C. Sources with "as yet" Unidentified IR Emission Bands

Although the planetary nebula NGC 7027 was the first object reported with band emission at 3.3, 8.6 and  $11.2\mu\text{m}$  (Gillett, Forrest, Merrill, 1973; Merrill, Soifer, Russell, 1975), a wide variety of sources have been found to emit at 3.3/3.4, 6.2, 7.7, 8.6,  $11.2\mu\text{m}$  (Russell, Soifer, Merrill, 1977). A number of interesting AFGL sources are known to emit in these bands, whose origin is not yet determined. Figure 5 illustrates how strong this band emission can be. Since most sources with IR band emission of this type are known to be spatially extended, they would be difficult to find without the guidance of the AFGL Survey. Further, deeper surveys might reasonably be expected to detect a more complete sample of such sources.

D. Systems Exhibiting Disc Geometry

The discovery of the "Egg Nebula," GL 2688 (Ney et al. 1975) and subsequent objects of a similar nature has led to a wealth of information on circumstellar dust envelopes with a flattened disc-like shape. The evolutionary status of these objects has yet to be well determined. The unbiased detection of such sources by the AFGL Survey has led to the discovery of an entirely new type of stellar system.

E. Summary Tables of AFGL Sources

Although a majority of the AFGL detections are apparently cool stars, a significant number are molecular cloud sources, circumstellar disc sources

Gillett, F. C., Forrest, W. J., Merrill, K. M., 1973, Ap. J. 183, 87.

Merrill, K. M., Soifer, B. T., Russell, R. W., 1975, Ap.J.(Letters) 200, L37.

Merrill, K. M., Russell, R. W., Soifer, B. T., 1976, Ap. J. 207, 763.

Ney, E. P., Merrill, K. M., Becklin, E. E., Neugebauer, G., Wynn-Williams, C.G., 1975, Ap. J. (Letters) 198, L129.

Russell, R. W., Soifer, B. T., Merrill, K. M., 1977, Ap. J. 213, 66.

and sources of unidentified band emission. The AFGL Catalogue has substantially increased the number of sources in all three categories. The following tables are a listing of objects identified in the AFGL Catalogue which are not present in the IRC Catalogue of Neugebauer and Leighton. Table II lists non-IRC M stars. Table III lists non-IRC carbon stars, Table V circumstellar disc sources (eggs), and Table VI sources of unidentified band emission. The entries which are marked with asterisks are those in our assigned part of the sky, i.e.  $HH:00:00 \leq \alpha < HH:20:00$ . A question mark following an entry indicates that the classification is uncertain. Entries enclosed in parentheses are as yet unconfirmed sources which for a variety of reasons are expected to be real. Such objects are treated as unknowns in the statistical discussions and summaries.

The classifications implied by Tables II through VI are provisional and are intended to provide working lists for further study. They are based on all the information available to the authors including as yet unpublished results and private communications from other observers. Hence classifications as they are ultimately published should be referenced, rather than these tables, as the source data for a given object.

A breakdown of these tables shows that for non-IRC objects there are

Carbon stars	40 + 6 suspect
M stars	44 + 3 suspect
Molecular cloud sources	38
Eggs	7 + 9 suspect
Band emitters	14

Table II Non-IRC M Stars

0230	OH127.9+0.0	2188A	OH22.8-0.3
0360	RR Cep	2192	
0538?		2199	
*0570	SX Cam	2205	OH26.5+0.6
*1101		2222	
1110	VZ Cam	2252	
1113		2259	
1162		2266	LO Her
1192	SS Pup	2290	OH39.7+1.5
1274	OH235.3+18.1	*2350	
1283		*2361	
*1686	OH334.7+50.0	*2362	
*1822	OH345.0+15.7	*2370	
*1954	V1848 Oph	*2374	
1992	OH358.2+0.5	2425	OH22.7-17.9
2009		2445	
2015		*2498	V718 Cyg
2019	OH2.6-0.4	*2690	X Cep
*2085	OH5.0-3.8	*2885	OH104.9+2.4
*2096?		2991	5h2-149
2143?		2999	A5501
2161		*3022	
2171	SVS4271	*3067	AN Cep
2174	OH22.0+0.0		

Table III Non-IRC Carbon Stars

*0055	FR Cas	*2316?	
0067		*2318	
*0190?		*2392	
0341		2403?	
*0482		2428	
0799		2477?	
*0865		2482	KL Cyg
*0918		2494	
0935		*2513	
0954		2604	
0971		2613	
*1062		2679	
*1085		2686	
*1235		*2699	
*1922		*2881	
2023		2901	
2047		2949	
*2085		3011	
*2113?		*3068	
*2118		3099	
2150		Early type carbon-rich stars	
2154		1135	U Mon
2155		4219	R CrB
2178		*2104	WC8) Wolf-Rayet stars
2256?		2179	WC9)
2259			



Table IV Molecular Cloud Sources

(0326/28)	W3	(2177)	OH17.6+0.2
0331	W3-OH	2245	G29.9-0.0
(0333)	W4	2251	W43/G30.8-0.0
4029	IC1848	* 2234	W490H
0416	Sh201	* 2341	G45.13+0.14
* 0437		* 2345	OH45.5-0.0
0490		(2378/79/80)	W51
0779.0	OMC-1 BN/KL	2381	W51-IRS2
.1	Trapezium	2455	Sh88B/G61.5+0.1
0806	NGC2023	2495	K3-50
0807	NGC2024	* 2554	G78.4+2.8
0818	NGC2071	* 2557	BD+40 <sup>0</sup> 4.564
* 0877	NGC2170/Mon R2	(2578)	G78.1+0.6
* 0896	Sh255/OH0610+18	(2586)	G79.3+1.3
*(0902)	Sh269	2591	AFCRL 809-2992
0961	M.Cohen's Rosette Source	(2593)	DR9/W69
0989	D.A.Allen's source in NGC2264	(4267)	G78.2-0.4
4222	Elias 29 in Oph	(2602)	DR15/G79.2+0.4
4224	Elias 21 in Oph	(2612)	G80.4+0.4
2046	not IRC-20411	2621	W75(N)
* 2052	M8 including Hourglass and Her 36	2624	W75(S)/DR21/G81.7+0.5
		2625	DR22/G80.9-0.2
* 2059	"M8E"	2636	G82.6+0.4
* 2078	W31	*(2699)	G81.4+1.2
* 2090	W33A	* 2884	Sh140
*(2117)	M16A/B	* 3048	NGC7538
* 2136	OH17.6+0.2	* 3053	Sh159
		*(3057)	Sh157

Table V Circumstellar Disc Sources (Eggs)

0618	"Perseus Egg"
*0915	HD44179/"Red Rectangle"
0961?	M. Cohen's "Rosette Source"
0989?	D.A. Allen source in NGC2264
*1059?	Z CMa
2028?	89 Her
*2059?	"M8E"
*2088?	
*2132	MWC922
2165	MWC297
2454?	Sh87
2584	Sh106/G76.9-0.6
2603	MWC349
*2688	"Egg Nebula"
2789?	V645 Cyg
3181?	M2-56

Table VI IR Band Emitters<sup>+</sup>

4029	"IC 1848"
*0437	
0779	OMC-1
0807	NGC2024
*0915	HD44179
1388	M82 galaxy
*2052	M8 Hourglass
*2132	MWC922
2245	G29.4-0.0
4251	BD+30 <sup>0</sup> 3639
2454	Sh 87
*2713	NGC7027
*3048	NGC7538
*3053	Sh 159

<sup>+</sup>Not concluding compact HII regions where the 3.28 $\mu$ m band is present, but only weakly seen.

#### F. Comparison of AFGL and U of M Magnitudes

We have presented the comparison of AFGL and U of M measurements in a series of figures. It is clear that in this comparison variability plays a large role. There do not seem to be discrepancies between the systems which exceed the uncertainty of a given observation imposed by the fact that so many of the sources are highly variable. In comparing with the AFGL 4 micron observations, we have averaged our filters at 3.5 and 4.9 microns. Figures 6, 7 and 8 show the 4 micron data, Figures 9, 10 and 11 show the 11 micron comparison, and Figure 12 shows the 20 micron plot.

#### G. Some Statistical Characteristics of our Sample

Data for AFGL Survey sources are reported here regardless of their location on the sky. However, one of our primary tasks was to provide information on those sources with right ascension  $HH:00:00 \leq \alpha_{1950} < H:20:00$  and declination  $\delta_{1950} \geq -29^{\circ}$ . For statistical purposes then, the sample discussed below contains only the subset of sources located within this portion of the sky.

There are 704 sources total in our sample of which 529 (75%) also appear in the IRC Catalogue and 175 (25%) do not. We report data in Table VIII on 168(32%) of the IRC sources and 97(55%) of the non-IRC sources. Of the non-IRC sources, 65 were measured and 32 were not found.

Although the study of our sample is not yet complete, several trends in the data are worthy of note. Many of the stars in the AFGL Catalogue are variable, as is expected for luminous cool stars. At least 98% of the IRC portion of our sample are stars of known spectral type: 69% are M or K' stars and 5% are C stars. The ratio,  $R$ , of the number of cool stars with  $C/O > 1$  (carbon C stars) to the number with  $C/O < 1$  (M and K stars) is about .07 in agreement with that found for the full IRC Catalogue. However, of the non-IRC sources in our sample, 10% are C stars, 11% are M stars, and 58% are as yet unclassified. Hence  $R \geq .14$  for the non-IRC subset.

While there are a number of possible explanations for the difference in  $R$  for the sources in our sample with  $2.2\mu m$  fluxes above and below the limit of the IRC Catalogue, the tendency for  $R$  to be larger (more C stars) for the stars which are faint in the visual and the near infrared is perhaps to be expected. The reasoning is as follows. The lower limits of the IRC Catalogue

at  $2.2\mu\text{m}$ , near the peak flux of a typical cool stellar photosphere, and the AFGL Catalogue at  $4.11$  and  $20\mu\text{m}$ , where photospheric emission absorbed by circumstellar dust is re-radiated, correspond to roughly comparable energies. In the absence of thermal re-emission by dust, stars whose unattenuated flux is near the lower limit of the IRC are below the limit of the AFGL Catalogue. However, these same stars could be AFGL sources if they had sufficient circumstellar dust to redistribute their energy to longer wavelengths. Whether or not such a cool star with a circumstellar dust shell bright enough to be in the AFGL Catalogue would also be in the IRC depends on the  $2.2\mu\text{m}$  flux emergent from the dust shell. Photospheric radiation at  $2\mu\text{m}$  is attenuated by dust and not replaced by thermal re-emission. Hence, statistically one would expect most of the AFGL stars with dense dust shells to be found near or below the limit of the IRC. The carbon-bearing condensates associated with carbon-rich (C) stars have substantially higher  $2\mu\text{m}$  opacity than the silicate materials associated with oxygen-rich (M,K) stars. For stars of comparable luminosity with circumstellar dust shells one should anticipate that C stars would appear to be fainter at  $2\mu\text{m}$  than M stars. Hence at least the direction, if not the magnitude, of the observed trend in R seems understandable.

#### H. The Observing List

The observing list contains 1720 observation attempts on a total of 594 objects of which 72 were not found. Since about 8 observations are usually made, the table contains about 13,000 individual magnitudes. Since these data have been obtained over a significant period of time, the list should be valuable for determining the magnitude and nature of the variations in a respectable number of AFGL sources. The data were obtained on a number of telescopes with varying observing conditions. Because of pointing problems with all telescopes except the Wyoming 90", it was usually time consuming to conduct a satisfactory search for an AFGL source. We have identified the pointing problems with the O'Brien 30" telescope and with some moderate modifications we believe we could point the telescope accurately enough to put the AFGL position within the photometer beam. This would make the acquisition of known sources a routine operation and would give us more confidence in the "no find" nature of the sources we cannot at this time identify.

Table VII

## SYSTEM DESCRIPTIONS

SYSTEM #01 UM Uplooker #2 Ge:Ga bolometer 1 mm beam size										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	1.25	1.65	2.25	3.58	4.9	8.6	10.7	12.2	18	I
BANDPASS:	0.14	0.30	0.50	1.23	1.0	0.85	1.1	1.1	4.7	R
SYSTEM #03 UCSD Downlooker InSb photovoltaic 2/1/.5mm beam size CVF:λλ2.1-4.1μm										
01	02	03	04	05	06	07	08	09	10	11
BANDCENTER:	1.25	1.65	2.28	3.5	4.9	4.8	3.3	3.2	3.08	11
BANDPASS:	0.14	0.30	0.47	1.0	1.0	0.33	0.05	0.5	0.12	
SYSTEM #04 UCSD Downlooker Ge:Hg photoconductor 2/1/.5mm beam size CVF:λλ7.5-13.6μm										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:			2.28	3.5	4.9	8.4	11.2	12.5		11
BANDPASS:			0.47	1.0	1.0	1.0	2.0	1.7		
SYSTEM #05 UM Uplooker InSb photovoltaic 2/1/.5mm beam size										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	1.25	1.65	2.28	3.58	4.9	4.8	3.3			11
BANDPASS:	0.14	0.30	0.47	1.23	1.0	0.33	0.05			
SYSTEM #06 UM Uplooker Ge:Ga bolometer 1mm beam size										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	1.25	1.65	2.25	3.58	4.9	8.6	11.3	12.8	18	10.3
BANDPASS:	0.14	0.30	0.50	1.23	0.35	0.7	2.2	1.2	4.7	1.0
SYSTEM #07 UM Uplooker Si:As photoconductor 2/1/.5mm beam size CVF:λλ7.5-13.6μm										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	2.28	3.58	4.74	4.9	7.9	8.5	10.55	11.09	11.94	12.52
BANDPASS:	0.45	1.23	0.48	1.0	0.4	0.8	0.90	2.0	1.04	1.2
SYSTEM #08 UM Uplooker InSb photovoltaic 2/1/.5mm beam size CVF:λλ2.8-5.5μm										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	1.25	1.65	2.28	3.08		3.27	3.53	3.58	3.80	4.74
BANDPASS:	.14	.30	.45	.12		.14	1.06	1.23	.59	.48
SYSTEM #10 UCSD Downlooker photoconductor 2/1/.5mm beam size CVF:λλ2.8-5.5μm FILTER: #3										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	1.25	1.65	2.28	3.08		3.27	3.53	3.58	3.80	4.74
BANDPASS:	.14	.30	.45	.12		.14	1.06	1.23	.59	.48
SYSTEM #11 UCSD Downlooker photoconductor 2/1/.5mm beam size CVF:λλ12.3-23μm FILTER: #4										
00	01	02	03	04	05	06	07	08	09	10
BANDCENTER:	1.25	1.65	2.28	3.08		3.27	3.53	3.58	3.80	4.74
BANDPASS:	.14	.30	.45	.12		.14	1.06	1.23	.59	.48

SYSTEM #12 UM 12λ#2 Downlooker Ge:Ga bolometer 1mm beam size	#6	#6	#6	#6	#6	#6
FILTER:						
SYSTEM #13 UM Downlooker Ge:Ga bolometer 1mm beam size	#1	#1	#1	#1	#1	#6
FILTER:						
SYSTEM #14 UCSD 4λ Downlooker Ge:Ga bolometer 1mm beam size	#4	#4	#4	#4	#4	
FILTER:						
SYSTEM #15 UCSD Downlooker Ge:Ga bolometer 1mm beam size						#6
FILTER:						

Table VIII  
Observatory Code

1. O'Brien 30" scale 26 seconds arc/mm
2. Mt. Lemmon 60" scale 8.5 seconds arc/mm
3. Jelm Mountain 90" scale 4.0 seconds arc/mm
4. KPNO 50" scale 11 seconds arc/mm
5. Cerro Tololo 36" or 60"
6. Las Campanas 40"



Explanatory Note to AFGL Observation Summary:

- Col. 1. AFGL Catalog Number. Decimal portion refers to possible multiple "AFGL#" sources.
- Col. 2. Date of observation year/month/day.  
"DATE"
- Col. 3. Observatory code (Table VIII)  
"OBS"
- Col. 4. System code (see Table VII) for identifying system used, available beam sizes and filter band centers and bandpasses corresponding to "SYS" columns headed 00 to 11.
- Col. 5. Aperture used: 1 is largest aperture, 2 is next largest, etc.  
"A"
- Col. 6. (see Table VII). Aperture size and telescope scale (Table VIII). "S" Together these give beam size. Spectrophotometry 1 designates that a CVF spectrum was taken.
- Col. 7 to Col. 18. Columns designated 00 to 11 are the observed magnitudes appropriate to the system used (see Table VII). Upper limits are for 3 standard deviations from the mean.

NF = not found

FF = object found and either not measured or presumably not the AFGL source.

Table IX

## AFGL OBSERVATION SUMMARY

AFGL#	DATE	ORS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0005.0	77/02/15	1	01	1	0		2.6	1.8	1.1	0.4	-0.1	-0.8	-1.4	-1.7	-2.0		
0014.0	73/07/16	1	01	1	0		4.6	3.0	1.8	0.3	-0.4	-2.2	-3.0	-3.0		5.2	> 8.2
0014.0	73/09/05	1	01	1	0		4.8	3.1	2.0	0.5	-0.2	-1.0	-3.0	-2.5			
0014.0	73/09/24	2	04	1	0				2.1	0.6	-0.4	-1.8	-2.6	-2.6		> 7.3	
0014.0	73/12/12	2	04	1	1				2.4	1.0	0.2	-1.5	-2.2	-2.4			
0014.0	74/10/25	2	03	1	1			2.9	1.7	0.2							
0014.0	74/11/03	2	01	1	0		4.4	3.1	1.8	0.2	-0.7	-2.4	-3.0	-3.0	-3.8		
0055.0	76/11/16	1	01	1	0		6.4	5.2	4.6	4.3							
0057.0	70/00/00	4	14	1	0				-1.2	-1.7	-1.7	-2.2	-2.0	-2.9			
0057.0	73/11/29	2	04	1	1				-0.5	-1.3	-0.5	-2.6	-3.3	-3.3			
0059.0	73/09/20	2	04	1	1				-0.4	-1.3	-1.6	-2.8	-3.5	-3.6	-3.8	3.2	
0050.0	73/10/14	1	01	1	0		1.0	0.1	1.8	1.4	1.2	0.5	-0.3	-0.3			
0060.0	74/12/30	1	01	1	0		3.4	2.5	3.5	2.0	-0.3	-1.9	-2.4	-2.5	-3.5		
0067.0	74/12/30	1	01	1	0		7.4	5.9	5.6	2.8	1.0	-1.2	-1.3	-1.9	-1.9		
0067.0	77/10/02	1	01	1	0					1.1	1.3	0.5	0.3				
0068.0	70/00/00	4	14	1	0				1.8	1.4	1.0	> 0.5	0.1	-0.6			0.6
0092.0	72/03/12	1	13	1	0		2.8	1.9	1.5	0.5	0.8	0.1	-0.8	-0.6			
0109.0	73/07/16	1	01	1	0		3.0	2.1	1.5	1.0	0.9	0.5	-0.5	-1.0			
0109.0	73/03/05	1	01	1	0	3.0	2.4	1.5	1.2	0.9	1.0	0.6	-0.2	0.2		5.5	
0116.0	77/11/04	1	01	1	0	3.1			4.2	3.9	1.7	1.6	0.6	0.6			
0117.0	77/11/04	1	01	1	0		5.2	4.4	1.2	0.9	0.9	0.6	0.3	0.1			
0124.0	73/03/19	2	04	1	0												
0145.0	74/10/29	1	01	1	0	NE	1.9	1.1	0.8	0.6	0.4	-0.1	-0.7	-0.8			
0149.0	75/10/29	1	01	1	0	NE	6.7	4.1	1.7	-1.0	-1.7	-3.0	-3.9	-4.0	-4.6		
0157.0	73/03/21	1	01	1	0		7.0	4.3	2.1	-0.4	-1.3	-3.0	-3.6	-3.9			
0157.0	73/09/05	1	01	1	0				2.2	-0.2	-1.4	-2.9	-3.6	-3.8			
0157.0	73/09/22	2	04	1	0							-2.9	-3.6	-3.7			
0157.0	73/09/23	2	04	1	1							-2.9	-3.6	-3.7			
0157.0	73/09/24	2	10	1	1							-2.8	-3.5	-3.6			
0157.0	73/10/01	2	04	1	0							-2.9	-3.5	-3.7			
0157.0	73/10/02	2	04	1	1							-2.5	-3.1	-3.4			
0157.0	73/12/19	2	04	1	1				2.7	0.2	-0.9						
0157.0	74/10/24	2	03	1	1				1.8	-0.5							
0157.0	77/03/30	1	01	1	0			5.6	2.7	0.3	-0.8	-2.5	-3.0	-3.4			
0157.0	78/01/09	1	01	1	0	4.6			3.3	0.5	-0.8	-2.4	-2.6	-3.2	-4.4		
0160.0	78/11/16	1	01	1	0				4.9	4.9	4.2	1.2	0.3	0.5			
0163.0	77/02/05	1	01	1	0	4.1	5.9	5.1	4.9	1.6	1.5	1.2	0.6	0.5			5.9
0163.0	77/03/22	1	01	1	0	4.3	3.4	2.5	2.6	2.5	3.2	0.3	-0.6	-1.2			
0167.0	73/07/02	1	01	1	0		4.8	3.4	2.2	0.8	0.3	-0.9	-1.3	-1.2			
0167.0	73/09/24	2	04	1	0				1.9	0.5	-0.1	-0.8	-1.3	-1.1			
0167.0	73/09/29	2	04	1	1												
0167.0	73/10/25	2	10	1	1							-0.6	-1.1	-1.1			
0167.0	73/12/21	2	04	1	1			3.1	2.3	0.9	0.3	-0.6	-1.1	-1.1			
0167.0	74/10/26	2	03	1	1				1.9	0.7	-0.2	-0.6	-0.6	-0.5	-0.9		
0167.0	78/01/10	1	01	1	0	4.2			2.3	1.1	1.0	0.0	-0.4	-1.7			
0168.0	72/08/12	1	13	1	0				2.7	1.6	1.0	0.0	-0.7	-1.3			
0168.0	73/01/11	2	02	1	1				2.3	1.3	0.6	-0.3	-1.7	-2.1	-2.5		
0168.0	73/01/19	1	13	1	0				2.3	1.2	0.6	-0.3	-1.7	-2.1	-2.5		
0168.0	73/02/08	1	13	1	1				2.3	1.3	0.7	-0.3	-1.3	-2.3	-2.5		

## AFGL OBSERVATION SUMMARY

[illegible]

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0378.0	70/09/00	4	14	1	0					0.3	0.4	0.2	-0.8				
0381.0	70/09/00	4	14	1	0					1.4	1.0	0.4	-1.3				
0387.0	76/11/26	2	04	1	0									NF			
0387.0	78/01/10	1	01	1	0												
0401.0	74/12/08	2	03	1	1												
0414.0	72/08/12	1	13	1	0					-1.1	0.9	0.9	-0.4				0.4
0414.0	73/10/17	3	01	1	0	3.4	2.9	2.0	1.3	1.3	1.3	0.8	0.2	-0.3	-1.3	5.6	8.8
0414.0	78/10/19	3	01	1	0	3.3	2.9	2.5	1.4	1.0	0.9	1.0	0.5	0.1	-0.2	5.6	8.6
0416.0	76/11/29	2	04	1	0									NF			
0416.0	77/10/25	2	03	1	0												
0416.0	77/10/28	2	04	1	0								3.8				
0416.0	77/11/24	2	01	1	0												
0416.1	77/10/25	2	03	1	0												
0416.2	77/10/28	2	04	1	0												
0419.0	70/09/00	4	14	1	0					5.8	-1.6	3.6	3.0				
0425.0	77/08/12	1	01	1	0					-1.8	0.8	-1.6	-1.9				
0428.0	70/09/00	4	14	1	0					0.9	-2.0	0.6	0.8				
0434.0	77/07/25	1	01	1	0					-2.1	-2.2	-2.2	-2.3				
0434.0	77/08/30	1	01	1	0					1.4	1.0	-0.6	-1.7	-1.8			
0437.0	75/10/05	2	06	1	0					0.9	0.4	-1.1	-2.4	-2.2	-2.2		3.0
0437.0	75/10/06	2	05	1	0												
0440.0	77/08/30	1	01	1	0					6.0	1.4	1.7	0.4	0.3			
0453.0	77/10/20	1	01	1	0					1.6	1.2	1.1	0.9	0.3			
0457.0	77/02/05	1	01	1	0	3.5	2.9	2.2	1.0	1.7	1.9	2.0	1.6	1.6		4.2	5.3
0454.0	77/10/03	1	01	1	0					1.5	1.6	0.6	-0.4	0.1		5.0	7.1
0465.0	77/10/03	1	01	1	0					3.4	3.3						
0466.0	77/10/03	1	01	1	0					1.9							
0467.0	77/10/03	1	01	1	0					2.1	2.0	1.3					
0471.0	77/10/03	1	01	1	0					1.3	1.5	0.9					
0472.0	77/10/03	1	01	1	0												
0482.0	74/11/04	1	01	1	0					2.0	0.3	-1.4	-1.8	-2.1			
0482.0	75/10/29	1	01	1	0					2.1	0.5	-1.4	-1.7	-2.0	-2.3		
0482.0	76/11/28	1	01	1	0					3.1	0.9	-0.8	-1.3	-1.6	-2.5		
0489.0	73/03/17	1	01	1	0					1.5	0.2	-1.7	-2.4	-2.6			
0489.0	73/03/21	1	01	1	0					-0.4	-1.4	-2.8	-3.3	-3.4	-3.3		
0489.0	73/03/21	1	01	1	0					-0.6	-1.6	-2.7	-3.3	-3.4	-3.4		
0489.0	73/09/22	2	04	1	1					-0.4	-1.5	-2.8	-3.3	-3.2			
0489.0	73/10/01	2	04	1	1							-2.6	-3.2	-3.1			
0489.0	73/10/04	1	01	1	0					-0.5	-1.5	-2.7	-3.2	-3.3	-3.1		
0489.0	73/10/22	2	04	1	0					1.7	-1.5	-2.6	-3.2	-3.1			
0489.0	73/12/21	2	04	1	0					0.0	-1.1	-2.3	-3.0	-2.9			
0489.0	74/01/09	2	04	1	1					2.1	-1.0	-2.3	-2.8	-2.7			
0489.0	74/01/24	2	03	1	1					1.0	-0.8						
0489.0	74/11/08	2	01	1	1					1.2	-1.6	-2.7	-3.2	-3.3	-3.3		
0489.0	74/12/03	2	03	1	1					-0.6							
0490.0	73/10/22	2	04	1	0					3.1	1.7	0.0	-0.8	-1.2			
0490.0	73/11/22	2	04	1	1					3.1	1.8	0.0	-0.7	-1.3			
0490.0	73/11/21	2	04	1	1					3.0	1.8	0.0	-0.7	-1.2			
0490.0	74/11/07	2	01	1	0					2.9	1.6	0.1	-0.4	-1.3	-3.0		

# AFGL ORSPERVATION SUMMARY

AFGL#	DATE	CBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0490.0	74/11/26	2	03	1	1												
0490.0	74/11/27	2	04	1	1												
0490.0	74/11/28	2	04	1	1												
0490.0	76/10/26	2	05	1	0		10.5	8.0	5.2	3.1	1.0	0.0	-0.7	-1.3			
0524.0	73/01/29	1	01	1	0	7.2											
0526.0	73/10/19	3	01	1	0	4.0	3.5	2.7	2.2	1.0	2.1	0.8	0.5				
0527.0	73/10/19	1	13	1	0												
0527.0	73/01/19	1	13	1	0												
0527.0	73/02/09	1	13	1	0												
0527.0	73/04/27	1	01	1	0												
0527.0	73/09/30	2	04	1	0												
0527.0	73/10/04	1	01	1	0												
0527.0	73/10/22	2	04	1	0												
0527.0	73/10/25	2	10	1	0												
0527.0	74/01/28	2	04	1	1												
0527.0	74/02/27	2	04	1	1												
0527.0	74/10/24	2	03	1	1												
0527.0	74/11/09	2	01	1	0												
0529.0	73/02/29	1	01	1	0		5.1	3.6	2.0	0.3	-0.4	-1.3	-1.5	-1.6			
0529.0	73/03/17	1	01	1	0		0.6	-0.4	-1.2	-2.2	-2.9	-4.3	-5.2	-5.2	-1.6		
0529.0	73/09/21	2	04	1	1												
0529.0	73/10/21	2	04	1	1												
0529.0	73/10/24	1	01	1	0		1.4	0.2	-0.8	-1.0	-2.5	-3.9	-4.8	-4.8	-5.3	5.4	
0529.0	73/10/22	2	04	1	0												
0529.0	73/10/22	2	04	1	0												
0529.0	73/10/22	2	10	1	0												
0529.0	74/01/28	2	04	1	1												
0529.0	74/01/29	2	04	1	1												
0529.0	74/10/20	2	03	1	1												
0529.0	74/11/07	2	03	1	1												
0529.0	74/12/14	2	02	1	1												
0529.0	73/01/09	1	01	1	0	1.3	1.0	-0.2	-1.1	-2.3	-2.9	-4.5	-5.2	-5.2			
0532.0	73/01/09	1	01	1	0	1.4	1.5	0.2	-0.7	-1.7	-2.4	-4.0	-4.7	-4.7	-5.5	5.3	
0550.0	76/11/29	2	04	1	0												
0550.0	77/10/25	2	03	1	0												
0550.0	77/11/22	2	06	1	0												
0550.0	78/01/10	1	01	1	0	NF											
0552.0	72/02/00	5	13	1	0												
0556.0	73/01/11	1	13	1	0												
0556.0	78/10/17	3	01	1	0	1.9	3.5	2.5	1.9	1.5	1.4	0.7	0.6	0.1		6.0	
0566.0	77/08/30	1	01	1	0		1.8	1.5	1.4	1.4	1.4	0.6	0.3				
0567.0	77/08/30	1	01	1	0		2.5	1.9	1.5	1.6	1.6	1.3	1.0				
0570.0	77/07/22	1	01	1	0		5.0	3.7	3.4	3.1	3.0						
0570.0	77/08/12	1	01	1	0												
0571.0	77/03/17	1	01	1	0												
0574.0	78/01/09	1	01	1	0	NF											
0574.0	78/01/09	1	01	1	0	NF											
0574.0	78/01/22	1	01	1	0	NF											

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	CPS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0585.0	72/01/11	2	04	1	1				3.1	0.6	-0.7	-1.0	-2.3	-2.6			
0585.0	73/01/11	1	13	1	0				3.1	0.6	-0.5	-1.0	-2.4	-2.5			
0585.0	73/01/19	1	13	1	0				3.0	0.6	-0.7	-1.0	-2.5	-2.7	-2.4		
0585.0	73/02/08	1	13	1	0				3.1	0.5	-0.7	-1.0	-2.5	-2.8	-3.3		
0585.0	73/04/27	1	01	1	0			5.7	3.1	0.4	-0.6	-1.8	-2.2	-2.4	-2.4		
0585.0	73/09/30	2	04	1	0				3.0	0.4	-0.8	-2.0	-2.4	-2.6			
0585.0	73/10/02	2	04	1	1							-2.0	-2.4	-2.6			
0585.0	73/10/04	1	01	1	0			6.0	3.0	0.4	-0.7	-1.8	-1.9	-2.8			
0585.0	73/10/20	2	04	1	0				2.0	0.4	-0.9	-2.1	-2.4	-2.7			
0585.0	73/10/24	2	10	1	1				3.0	0.4	-0.8						
0585.0	73/10/25	2	10	1	1												
0585.0	74/01/05	2	03	1	1				3.1	0.4	-0.8	-2.0	-2.4	-2.6			
0585.0	74/01/29	2	04	1	0			5.6	2.0	0.5							
0585.0	74/10/24	2	03	1	1				3.0	0.5	-0.7	-1.9	-2.2	-2.7	-3.1		
0585.0	74/11/07	2	01	1	0			5.7	2.9	0.5							
0585.0	74/12/03	2	03	1	1				3.1	0.7	-0.7	-1.9	-2.1	-2.5	-2.8		
0585.0	75/01/05	2	03	1	1				3.1	0.7	-0.7	-2.0	-2.2	-2.5	-3.5		
0585.0	78/01/22	1	01	1	0	4.5		5.8	3.1	0.6	-0.7	-1.1	-0.6	-0.2	-1.3	4.5	4.1
0585.0	78/10/19	3	01	1	0	5.0		5.8	3.1	0.6	-0.7	-1.1	-0.6	-0.2	-1.3	4.5	4.1
0590.0	73/01/11	1	13	1	0				1.5	1.1	1.1	0.5	-0.6	-0.2	-1.3	4.5	4.1
0590.0	73/01/11	1	13	1	0				1.5	1.1	1.1	0.5	-0.6	-0.2	-1.3	4.5	4.1
0590.0	78/10/17	3	01	1	0	3.4		1.7	1.3	1.0	0.6	0.6	-0.2	-0.2	-1.3	4.5	4.1
0601.0	70/00/00	4	14	1	0				0.9	0.5	0.4	0.3	-0.9	-1.1			
0617.0	77/07/25	1	01	1	0	2.2			0.9	0.5	0.4	0.3	-0.9	-1.1			
0618.0	73/11/28	2	04	1	1				8.2	5.3	2.4	-1.5	-2.6	-3.0			
0618.0	73/11/29	2	04	1	1							-1.4	-2.6	-3.1			
0618.0	73/12/19	2	04	1	1							-1.4	-2.6	-3.1			
0618.0	74/01/29	2	04	1	1							-1.5	-2.6	-3.1			
0618.0	74/11/08	2	01	1	0				9.3	5.1	2.4	-1.6	-2.4	-3.0	-4.2		
0618.0	78/10/29	3	01	1	0							-1.5	-2.4	-3.0	-4.6		
0622.0	78/10/03	3	01	1	0	3.5		2.2	1.8	1.8	1.5	1.2	0.7	0.7	0.9		
0632.0	77/10/20	1	01	1	0	2.3		1.6	1.5	1.4	0.9	0.9	0.7	0.7	0.9		
0633.0	77/10/20	1	01	1	0	1.8		0.8	0.4	0.0	0.3	-0.5	-0.9	-1.1			
0654.0	78/01/10	1	01	1	0	FF											
0654.0	73/09/21	2	04	1	1				-0.8	-1.7	-2.3	-3.3	-4.4	-4.1			
0654.0	73/10/22	2	04	1	0				-0.9	-1.8	-2.4	-3.4	-4.5	-4.3			
0654.0	73/10/24	2	10	1	0												
0654.0	74/02/02	2	04	1	1				-1.1	-1.9	-2.3	-3.3	-4.4	-4.3			
0654.0	74/02/23	2	03	1	1			0.7	-0.3	-1.2	-1.7	-2.9	-3.8	-3.7	-4.6		
0654.0	74/11/07	2	01	1	0	1.7		0.6	-0.3	-1.3	-1.7	-2.9	-3.8	-3.7	-4.6		
0654.0	74/12/14	2	03	1	1			0.6									
0654.0	75/00/00	4	14	1	0	0.2		0.2	-0.5	-1.3	-1.6	-3.6	-3.7	-3.6	-4.2		
0667.0	70/00/00	4	14	1	0							-1.0	-2.5	-2.4			
0667.0	73/09/22	2	04	1	0				0.2	-0.7	-1.2	-2.0	-2.6	-2.4			
0667.0	73/10/22	2	04	1	0				0.2	-0.7	-1.2	-2.0	-2.7	-2.5			
0667.0	73/10/24	2	10	1	1							-2.0	-2.7	-2.5			
0667.0	73/10/26	2	04	1	1				0.2	-0.6	-1.2	-2.1	-2.8	-2.6			
0667.0	73/12/21	2	04	1	1				0.0	-0.6	-1.2	-2.1	-2.8	-2.6			
0667.0	74/12/03	2	03	1	1				0.0	-0.6	-1.2	-2.1	-2.8	-2.6			
0667.0	77/11/04	1	01	1	0	2.3		1.0	0.1	-0.5	-0.7	-1.7	-2.4	-2.6	-2.0	3.9	4.9
0674.0	77/06/25	1	01	1	0	1.4		0.7	0.5	0.3	0.5	0.1	-0.6	-2.6	-2.2	3.0	3.0

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OPS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0631.0	77/07/25	1	01	1	0		2.2		0.8	0.5	0.4	0.3					
0693.0	76/09/00	4	13	1	0	NF				-0.7	-0.3	-1.2	-1.7				
0687.0	78/01/10	1	01	1	0	NF											
0697.0	76/01/22	1	01	1	0	NF											
0687.0	76/02/05	2	03	1	0		2.7	2.6	1.7	1.2	0.8	0.8	0.9	0.8		4.6	6.8
0693.0	78/01/10	1	01	1	0												
0687.0	72/03/12	1	13	1	0		3.5	2.9	1.9	1.6	1.4	1.0	0.0	1.3	0.4	4.2	0.9
0687.0	78/01/17	3	13	1	0					1.3	0.1	1.1	1.2	1.3	0.4		6.3
0700.0	73/01/08	1	13	1	0					3.8	0.1	-1.7	-2.4	-2.6	-3.5		
0700.0	73/02/08	1	13	1	0					3.0	-0.4	-2.0	-2.7	-3.2	-3.8		
0700.0	73/09/23	2	04	1	1					2.2	0.2	-2.4	-3.1	-3.3			
0700.0	73/06/28	2	12	1	0					0.1	-0.9	-2.4	-3.1	-3.3	-4.6		
0700.0	73/10/04	1	01	1	0		> 8.0	5.0	2.2	0.1	-0.8	-2.5	-3.1	-3.4	-4.3		
0700.0	73/10/22	2	04	1	0				2.3	0.4	-0.8	-2.3	-3.0	-3.2			
0700.0	73/10/21	2	04	1	1				2.6	-0.3	-0.3	-1.9	-2.8	-2.8			
0700.0	74/01/28	2	04	1	1				2.8	0.9	-0.1	-1.8	-2.6	-2.8			
0700.0	74/02/02	2	04	1	1						-0.1	-1.8	-2.5	-2.8			
0700.0	74/02/25	2	04	1	1				3.1	1.2	0.0	-1.6	-2.4	-2.6			
0700.0	74/10/25	2	03	1	1				2.8	0.8							
0700.0	74/11/08	2	01	1	0		7.6	5.0	2.8	0.6	-0.5	-2.2	-2.7	-3.0	-4.1		
0700.0	74/12/03	2	03	1	1			4.6	2.5	0.6							
0700.0	76/11/30	2	04	1	1				2.1	0.3	-0.7	-2.3	-3.2	-3.2			
0700.0	77/10/02	1	01	1	0			5.8	3.5	1.5	0.3	-1.7	-2.2	-2.8	-3.6		
0700.0	78/10/17	3	01	1	0	4.3	6.2	3.8	2.0	0.3	-0.2	-2.2	-3.2	-3.5	-4.8		
0700.0	78/10/19	3	01	1	0	4.2	6.2	3.9	2.0	0.3	-0.8	-2.4	-3.1	-3.4	-4.8		
0702.0	78/01/09	1	01	1	0	0.0	-0.1	-1.0	-1.3	-1.5	-1.4	-1.8	-2.2	-2.2	-2.6		
0703.0	78/01/11	1	01	1	0	1.8	1.7	0.9	0.6	0.5	-0.1	0.1	0.3	0.2			
0724.0	73/01/11	1	13	1	0				2.3	1.0	0.4	-1.1	-2.2	-2.1	-2.3		
0724.0	73/02/03	1	13	1	0				2.5	1.3	0.6	-0.8	-1.6	-2.2	-1.8		
0724.0	73/04/27	1	01	1	0		5.4	4.0	2.9	1.5	1.0	-0.7	-1.4	-2.3	-2.6		
0724.0	73/10/04	1	01	1	0		5.3	3.8	2.2	0.8	0.0	-1.5	-2.4	-2.3			
0733.0	77/03/12	1	01	1	0		2.6	2.1	1.7	1.5	1.6	0.6	-0.2	-0.1			
0739.0	75/12/17	1	01	1	0		3.3	2.4	2.7	2.4	1.5	0.6	-0.2	-0.1	> -2.1		
0751.0	72/03/12	1	13	1	0				1.7	1.4	1.5	0.4	> -0.4				
0767.0	70/03/00	4	14	1	0					-1.2	-0.9	-1.0	-1.3	-1.5			
0767.0	73/03/30	2	04	1	1							-1.2	-1.4	-1.5			
0777.0	74/11/13	2	03	1	1		-0.7	-0.9	-1.2								
0779.0	74/10/25	2	03	1	1		8.4	4.3	1.5								
0779.0	74/12/06	2	03	1	1		8.4	4.4	1.6								
0779.0	74/12/12	2	03	1	1				1.5								
0779.0	74/12/17	1	01	1	0		> 6.6	5.8	4.0	1.4	-0.3	-1.9	-1.5	-4.7	-6.5		
0779.1	73/10/26	2	04	1	0							-0.6	-2.6	-2.6	-4.7	4.6	5.2
0779.1	73/11/05	2	11	1	1								-2.8	-3.9	-5.7		
0779.1	75/12/17	1	01	1	1		4.0	3.3	3.8	3.4	2.5	-1.7	-3.7	-3.9			
0781.0	78/01/11	1	01	1	0	NF											
0781.0	78/01/17	1	01	1	0	NF											
0791.0	78/01/22	1	01	1	0	5.0	4.3	3.3	3.0	2.4	1.5	-1.0	-1.5	-1.8	-2.7		5.9
0796.0	72/02/00	5	13	1	0				1.9	0.8							
0796.0	73/03/30	2	04	1	0				2.3	1.2	1.1	0.3	0.2	0.0			
0796.0	76/03/05	1	01	1	0				2.5	1.6	1.6	0.3					

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0799.0	79/10/11	2	03	1	1		8.2	6.4	4.6	2.9		2.0					
0799.0	79/10/15	2	07	2	1		5.0	2.6	1.1			0.1	-0.3			-0.2	
0799.1	73/10/14	1	01	1	0		5.3	4.7	5.1	4.6	3.7	-0.8	-2.3	-2.4		6.5	
0806.0	73/10/04	2	12	1	0					6.0							3.8
0807.0	78/01/09	1	01	1	0	NF											
0807.1	72/03/16	2	12	1	0					6.3	5.8	3.0	1.7				
0807.1	72/03/17	2	15	1	0										2.6		
0807.1	74/05/24	2	03	1	0			6.5	6.4	5.5							
0807.1	74/11/26	2	03	1	1			7.2	5.9	5.5							
0807.2	74/05/24	2	03	1	1			7.0	4.1	3.5							
0807.2	74/12/12	2	03	1	1				4.8	2.2							
0809.0	74/02/25	2	04	1	0				4.6	1.9	0.5	-1.5	-2.0	-2.1			
0809.0	74/03/14	2	04	1	1				4.2	1.5	0.3	-1.5	-2.1	-2.3			
0809.0	74/04/13	2	04	1	1				4.3	1.6	0.1	-1.7	-2.3	-2.4			
0809.0	74/11/15	2	03	1	1			6.9	4.3	1.7							
0809.0	74/12/07	2	03	1	1			6.9	4.3	1.7							
0809.0	74/12/14	2	03	1	1			7.0	4.4	1.7							
0809.0	73/01/22	1	01	1	0	6.3			4.9	2.4	0.2	-1.1	-1.3	-1.7	-1.9		
0811.0	73/01/09	1	13	1	0				1.2	-0.1	0.9	-1.9	-2.7	-2.6	-3.2		
0811.0	73/03/17	1	01	1	0		3.0	1.8	0.8	-0.4	-0.7	-2.3	-3.1	-3.0	-3.5		
0811.0	73/10/34	1	01	1	0		2.6	1.3	0.5	-0.6	-1.1	-2.5	-3.3	-3.3	-3.9		
0815.0	73/01/09	1	13	1	0		2.1	1.4	1.0	0.7	0.8	-0.6	-1.2	-1.1		3.6	5.1
0815.0	73/01/19	1	13	1	0				3.6	2.0	0.8	-0.1	-0.3	-1.1	-1.2		
0815.0	73/03/17	1	01	1	0		7.6	5.6	3.6	1.9	1.1	-0.1	-0.7	-1.8	-2.8		
0815.0	73/03/17	1	01	1	0				4.0	2.3	1.4	0.2	-0.2	-0.2	-0.9		
0815.0	73/09/29	2	04	1	0				3.3	1.7	0.7	0.0	-0.6	-0.4			
0815.0	73/10/26	2	04	1	0				3.2	1.5	0.5	-0.2	-0.8	-0.8			
0815.0	73/12/28	2	04	1	0				2.9	1.3	0.4	-0.5	-0.9	-0.9			
0815.0	74/01/20	2	04	1	0				3.0	1.4	0.4	-0.4	-1.0	-0.9			
0815.0	74/02/28	2	04	1	0			5.4	3.9	2.3							
0815.0	74/10/26	2	03	1	1		7.0	5.6	3.9	2.3	1.2	0.2	-0.2	-0.4	-0.6		
0815.0	74/11/11	2	03	1	1			5.3	3.9	2.3							
0815.0	74/11/11	2	03	1	1												
0815.0	78/01/09	1	01	1	0	NF											
0815.0	76/01/17	1	01	1	0	NF											
0821.0	78/01/22	1	01	1	0	2.3	2.1	1.4	1.0	0.7	0.8	-0.6	-1.2	-1.1		3.6	5.1
0821.0	78/01/10	1	01	1	0	2.7	2.6	1.7	1.4	1.2	0.8	0.8	0.9	0.8		4.8	6.8
0836.0	70/09/00	4	14	1	0				-4.1	-4.5	-4.3	-4.7	-5.4	-5.3			
0836.0	73/10/02	2	04	1	1												
0836.0	73/11/05	2	04	1	1												
0836.0	73/11/05	2	11	1	1												
0836.0	73/11/06	2	11	1	1												
0836.0	74/10/25	2	03	1	1		-4.0		-4.2	-4.4	-1.7	-2.1	-3.0				
0837.0	70/00/00	4	14	1	0												
0842.0	73/01/09	1	13	1	0				2.3	1.5	1.1	0.4	-1.1				
0850.0	73/01/09	1	13	1	0				2.7	1.8	1.2	-0.2	-1.2	-1.3	-2.0		
0850.0	73/01/19	1	13	1	0				2.7	1.8	1.4	0.0	-0.9	-1.5	>-1.8		
0850.0	73/03/17	1	01	1	0		5.0	3.7	2.9	1.9	1.5	-0.1	-0.9	-1.0	>-1.7		
0850.0	73/04/06	2	04	1	0				3.0	2.0	1.6	0.5	-0.8	-0.7			
0850.0	73/10/24	1	01	1	0		4.1	2.9	2.3	1.3	0.7	-0.9	-1.7	-1.6		6.1	
0850.0	74/01/29	2	04	1	0				2.0	1.0	0.5	-0.8	-1.7	-1.7			



AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	F	00	01	02	03	04	05	06	07	08	09	10	11
0950.0	74/02/27	2	04	1	1				2.0	1.2	0.6	-0.7	-1.7	-1.5			
0950.0	74/11/13	2	03	1	1			3.6	2.8	1.8							
0954.0	72/09/12	1	13	1	0				2.5	1.5	1.2	0.7	-0.7	-0.2	-0.6		7.6
0954.0	78/11/09	2	01	1	0			3.2	2.4	1.5	1.3	0.4	-0.4	-2.6			
0955.0	73/12/05	2	01	1	0				7.5	3.0	0.7	-1.8	-2.4	-2.5			
0955.0	73/11/20	2	04	1	1							-1.7	-2.3	-2.3			
0955.0	74/01/29	2	04	1	1			> 8.0		3.5	1.0	-1.5	-2.1	-2.3			
0965.0	74/03/15	2	01	1	0			> 7.5		3.9	1.4	-1.1	-1.9	-2.1			
0965.0	74/03/16	2	04	1	0			8.4		3.8							
0965.0	74/04/12	2	04	1	0					3.8	1.5	-1.3	-2.0	-2.2	-3.5		
0965.0	74/11/08	2	01	1	0			7.2		2.3	0.1	-2.2	-2.6	-2.9			
0965.0	74/11/15	2	03	1	1			10.4	6.5	2.5							
0965.0	75/01/05	2	03	1	1			10.3	6.3	2.4	0.1						
0965.0	77/03/23	1	01	1	0				8.0	3.8	1.2	-1.7	-2.0	-2.9	-3.2		
0965.0	77/11/22	2	01	1	0				1.8	1.0	0.9	-0.3	-1.5	-1.3	-2.7		
0970.0	71/03/12	5	13	1	0				1.7	1.2	0.9	-0.6	-1.2	-1.2			
0970.0	77/08/29	1	01	1	0			3.0	2.2	1.6	1.2						
0973.0	76/05/05	1	01	1	0				2.4	1.6							
0977.0	78/01/09	1	01	1	0	NF											
0988.0	73/01/11	1	13	1	0				2.1	1.7	1.6	> 1.3	-0.2				
0993.0	70/00/00	4	14	1	0				0.6	0.6	-0.4	-0.2	-1.3				
0995.0	70/00/00	4	14	1	0				0.7	0.8	0.2	-1.0		-1.3			
0995.0	76/11/29	2	04	1	0				7.9	4.9	2.3	0.2	-0.1				
0995.0	78/03/09	1	01	1	0	NF											
0996.0	79/03/07	2	03	1	1			14.0	12.4	9.3	5.3	2.5			NF		
0996.0	77/11/22	2	01	1	0												
0996.0	78/01/17	1	01	1	0	NF											
0999.0	74/05/24	2	03	1	1			>13.1	8.4	4.4							
0999.0	74/11/25	2	03	1	1				8.4	4.8							
0999.0	74/11/26	2	03	1	1				2.8	2.9							
0999.0	76/05/05	1	01	1	0				3.2	1.2	0.1	-2.1	-2.6	-2.9			
0999.0	73/11/05	2	04	1	1							-2.1	-2.7	-2.9			
0999.0	73/11/29	2	04	1	1							-2.1	-2.6	-2.9			
0999.0	73/11/29	2	04	1	1												
0999.0	74/05/20	2	03	1	1				3.2	1.2	0.0						
0999.0	74/11/07	2	01	1	0			4.9	3.2	1.2							
0999.0	74/11/07	2	01	1	0			7.3	5.0	2.8	1.8	0.5	-0.1	-0.6	-2.2		
0999.0	74/12/10	2	03	1	1												
0999.0	77/10/23	2	03	1	0			5.0	3.3								
0999.0	76/10/14	1	01	1	0			8.8	4.7	2.7	1.5	0.2	-0.1	-0.3			
0999.0	72/03/04	2	03	1	1			8.0	4.0	1.9	0.7						
0999.0	72/01/11	1	13	1	0				2.8	1.7	1.2	-0.3	-1.3	-1.1	-2.4		
0999.0	72/02/27	1	01	1	0			4.4	3.2	2.0	1.6	-0.1	-1.1	-1.7			
0999.0	74/02/27	2	04	1	0				2.6	1.5	0.8	-0.7	-1.7	-1.5			
0999.0	74/03/11	2	04	1	1				2.5	1.4	0.7	-0.6	-1.7	-1.5			
0999.0	74/11/11	2	03	1	1			4.2	3.2	2.2	1.7	0.9	-0.2	0.2	-0.6	7.4	
0999.0	78/10/29	3	01	1	0			2.7	2.3	1.8							
0999.0	74/10/20	2	03	1	1			3.7	2.2	0.8							
0999.0	74/11/08	2	01	1	0			5.4	2.2	0.7	0.1	-0.9	-1.2	-1.2	-0.5		
0999.0	74/11/11	2	03	1	1			3.6	2.1	0.9							
0999.0	74/12/10	2	03	1	1			3.4	2.0	0.8							

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
0933.0	76/06/05	1	01	1	0												
0934.0	70/06/00	4	14	1	0			3.9	2.5	1.0	0.2	-0.9	-1.1	-1.9			
0945.0	75/10/29	1	01	1	0	NF				0.4	0.5	0.1	-0.2				
0954.0	75/11/04	1	01	1	0		6.4	5.1	3.8	1.0	1.1	-0.4	-1.0	-1.5			
0954.0	76/11/30	2	04	1	1				3.5	1.9	0.9	-0.6	-1.3	-1.3			
0954.0	77/10/03	1	01	1	0		7.1	5.3	4.1	2.5	1.8	-0.2	-0.8	-1.2	-1.7	>-2.6	
0955.0	73/04/05	2	04	1	0				3.5	2.3	1.6	0.1	-1.0	-0.9			
0955.0	73/11/28	2	04	1	0				2.5	1.2	0.4	-0.9	-2.0	-1.8			
0955.0	73/12/19	2	04	1	1				2.5	1.2	0.5	-0.9	-2.0	-1.9			
0955.0	74/01/28	2	04	1	1				2.5	1.2	0.5	-0.9	-2.0	-1.8			
0955.0	75/01/04	2	03	1	1			5.3	3.8	2.3	0.5	-0.9	-2.0	-1.8			
0955.0	75/01/00	4	14	1	0				-0.5	-1.0	-1.6	-2.2					
0955.0	74/11/13	2	03	1	1			-0.2	-0.7	-1.1							
0955.0	74/12/06	2	03	1	1			-0.1	-0.6	-1.0							
0956.0	74/12/10	2	03	1	1				-0.6								
0956.0	79/03/05	2	03	1	1		0.9	-0.0	-0.5	-1.0	-0.9	-0.9	-1.9	-2.0			
0971.0	74/04/12	2	04	1	0				4.2	1.6	0.1	-1.4	-2.1	-2.2			
0971.0	74/11/15	2	03	1	1			6.4	4.0	1.3	-0.1	-1.6	-2.1	-2.2			
0971.0	75/01/05	2	03	1	1			6.9	4.4	1.5	0.3						
0989.0	73/09/29	2	04	1	1					1.8	0.7	-1.0	-1.3	-1.8			
0989.0	73/10/25	2	10	1	1				4.6	2.4	0.7	-0.9	-1.4	-1.8			
0989.0	74/02/02	2	04	1	0				4.6	2.4	0.8	-0.9	-1.4	-1.8			
0989.0	74/12/06	2	03	1	1			7.5	4.6	2.5							
0989.0	74/12/12	2	03	1	1			7.5	4.6	2.4							
0989.0	75/01/05	2	03	1	1			7.5	4.6	2.5	0.8						
1007.0	74/10/20	2	03	1	1			-1.5	-1.4	-1.9							
1017.0	74/03/11	2	04	1	0				3.4	1.9	1.1	0.2	-0.3	-0.1			
1021.0	79/01/11	1	01	1	0	2.4	2.2	1.5	1.1	1.0	0.3	0.7	0.6	0.6		4.0	5.7
1030.0	70/00/00	4	14	1	0					1.1	1.0	0.6	0.0				
1050.0	77/04/29	2	04	1	1				2.4	1.6	1.7	1.0	0.1	0.4			
1050.0	78/02/07	1	01	1	0	4.0	4.0	3.1	2.4	2.0	1.8	1.1	0.7	0.7	-1.0	6.3	7.8
1050.0	78/02/19	2	03	1	1			3.0	2.5	1.9	1.6						
1059.0	72/01/17	2	04	1	0					1.8							
1059.0	74/02/24	2	04	1	0				3.4	1.9	0.7	-0.6	-1.2	-1.6			
1059.0	77/09/10	1	01	1	0	7.2			4.9	2.3	1.6	0.2	-0.3	-0.3			
1059.0	77/12/26	1	01	1	0	5.1	5.8	4.8	3.5	2.0	1.0	-0.5	-1.1	-1.6	-2.6		
1059.0	77/12/27	1	01	1	0	5.0	5.8	4.7	3.5	1.9	0.8	-0.8	-1.3	-2.0	-3.1		
1059.0	78/01/29	1	01	1	0	5.2	5.8	4.7	3.5	2.1	1.0	-0.6	-1.2	-1.6	-2.6		
1059.0	78/01/29	1	01	1	0	5.3	5.9	5.0	3.8	2.2	1.1	-0.6	-1.1	-1.4	-2.4		
1059.0	78/02/19	2	03	1	1			4.6	3.4	1.9	0.9						
1059.0	78/09/26	3	01	1	0		5.8	4.7	3.6	2.0	1.0	-0.6	-1.2	-1.7	-3.1		
1060.0	72/02/00	5	13	1	0				2.7	1.6							
1060.0	77/07/22	1	01	1	0				4.3	1.5	1.3	-0.6	-1.6				
1062.0	77/03/23	1	01	1	0			7.3	7.0	4.6	2.7	1.9	0.9	0.2	-0.1	4.4	5.5
1070.0	78/01/17	1	01	1	0	2.5	2.5	1.6	1.0	0.6	1.3	-0.2	-0.4	-0.7	-1.1		
1072.0	76/11/14	1	01	1	0	5.5	5.1	4.1	3.2	2.3	1.8	0.6	-0.2	-0.1	-1.0		
1074.0	74/03/11	2	04	1	0				3.4	2.2	1.6	0.5	-0.7	-0.4			
1074.0	78/01/17	1	01	1	0	4.7	5.1	3.0	2.1	1.6	-0.4	-1.0	-0.5	-0.1			

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	CFS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1085.0	74/03/24	2	04	1	0				3.9	1.5	0.4	-1.0	-1.6	-1.6			
1085.0	74/03/12	2	04	1	0				4.3	1.8	0.7	-0.8	-1.5	-1.5			
1093.0	73/03/05	2	03	1	1				3.1	0.9	-0.3						
1093.0	73/03/11	1	01	1	0	2.4	2.2	1.3	1.1	0.8	0.2	0.5	0.0	0.0	-0.5	4.1	6.5
1101.0	75/03/00	1	01	1	0	4.5	4.5	3.7	3.4	3.1	3.3	2.4					
1103.0	74/02/27	2	04	1	0				2.6	2.6	2.4		2.4				
1111.0	71/03/13	5	13	1	0				-0.6	-2.5	-3.5	-5.3	-6.3	-6.4	-7.2		
1111.0	73/03/29	5	13	1	0				-0.7	-2.5	-3.6	-5.3	-6.2	-6.4	-7.3		
1111.0	73/03/26	2	04	1	1				-0.6	-2.5	-3.5	-5.3	-6.3	-6.3			
1111.0	77/11/24	2	01	1	0	1.8	1.8	0.5	-0.8	-2.4	-3.6	-5.5	-6.0	-6.1	-6.1		
1111.0	78/02/19	2	03	1	1			0.3	-1.0	-2.7	-3.8						
1117.0	72/08/12	1	13	1	0				2.1	1.3	1.1	> 0.7	-0.3				
1120.0	73/00/00	4	14	1	0				-0.7	-0.6	-0.9	-1.7	-1.7				
1131.0	74/03/11	2	04	1	0				2.2	0.8	0.3	-0.7	-1.1	-0.9			
1133.0	73/12/18	2	04	1	1				3.4	2.5	1.3	-0.6	-1.3	-1.4			
1141.0	72/08/12	1	13	1	0				1.5	0.5	0.0	-1.5	-2.4	-1.8			-1.4
1141.0	73/01/11	2	04	1	1				2.3	1.3	0.6	-0.6	-1.7	-1.5			
1141.0	73/01/19	1	13	1	0				2.2	1.3	0.7	-0.4	-1.5	-1.4	-2.5		
1141.0	73/03/17	1	01	1	0	4.6	4.6	3.5	2.6	1.5	1.0	-0.6	-1.5	-1.5	-2.1		
1141.0	73/04/07	2	12	1	0								-1.3	-1.3	-1.9		
1141.0	73/04/18	2	04	1	1				2.7	1.7	1.1	-0.4	-1.3	-1.2			
1141.0	73/04/19	2	04	1	1							-0.2	-1.2	-1.1			
1141.0	73/10/04	1	01	1	0							-0.9	-1.7	-1.8			> 7.9
1141.0	73/11/28	2	04	1	0	5.3	5.3	4.0	2.8	1.4	0.7	-0.9	-2.0	-1.7			
1141.0	74/01/28	2	04	1	1				1.9	0.8	0.2	-1.1	-2.0	-1.7			
1141.0	74/02/02	2	04	1	1							-1.0	-2.0	-1.8			
1141.0	74/03/15	2	04	1	0				1.7	0.7	0.2	-1.0	-2.0	-1.9			
1141.0	74/11/15	2	03	1	1			4.2	3.1	1.9							
1151.0	72/02/02	5	13	1	0				1.1	-0.4							
1153.0	78/02/19	1	01	1	0												
1169.0	73/01/09	1	13	1	0	NF			1.9	1.5	1.6	0.9	0.7				
1183.0	70/00/00	4	14	1	0					-1.2	-1.3	-1.3	-1.3				
1193.0	75/04/30	2	03	1	0			-1.0	-1.1	-1.2							
1199.0	72/02/19	1	01	1	0	NF											
1199.0	73/01/09	1	13	1	0				2.7	2.1	1.8	-0.3					
1199.0	72/11/09	3	01	1	0			6.5	4.8	1.9	1.5	0.1	0.1	0.0	-0.2		
1215.0	72/02/00	5	13	1	0				1.6	0.7	0.4	0.2	-0.6	-0.6		2.8	4.5
1220.0	77/02/06	1	01	1	0	NF											
1233.0	77/03/23	1	01	1	0												
1241.0	75/03/00	4	14	1	0				-1.2	-1.4	-1.5	-1.9	-2.6	-2.5			
1241.0	77/03/23	1	01	1	0				-1.4	-1.4	-2.1	-2.1	-2.4	-2.5		1.0	3.6
1247.0	75/01/04	2	03	1	1			0.0	-0.7	-1.0	-1.4	-2.1					
1261.0	76/02/08	1	01	1	0	NF		1.4	1.1	0.9			NF				
1263.0	78/03/19	1	01	1	0	NF											
1274.0	72/11/24	2	04	1	0				4.8	2.5	1.6	0.1	-1.0	-1.1			
1274.0	75/02/24	2	04	1	0				5.3	3.0	2.0	0.4	-0.5	-0.5			
1274.0	74/04/12	2	04	1	0				5.5	3.1	2.0	0.5	-0.5	-0.6			
1274.0	78/04/27	2	03	1	1			8.5	6.5	4.9	3.4						
1283.0	78/11/14	1	01	1	0	5.4	4.9	3.9	3.1	2.2	1.9	0.5	-0.1	-0.5			
1283.0	79/03/05	2	03	1	1		4.3	3.4	2.8	2.1							

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1288.0	73/03/19	2	04	1	0												
1288.0	78/02/08	1	01	1	0												
1298.0	70/03/00	4	14	1	0		1.5	0.6	0.4	-0.1	0.1	-0.4	-1.0	-0.4	-1.3	3.3	5.8
1300.0	72/02/27	5	13	1	0				-0.1	0.0	0.1	-0.5	-1.2	-1.4			
1301.0	70/03/00	4	14	1	0				1.6	1.3	0.6	-0.6	-0.7				
1302.0	70/00/00	4	14	1	0					-0.2	-0.1	-0.5	-0.9				
1311.0	78/01/22	1	01	1	0	NF											
1311.0	79/04/05	2	05	1	0		2.2	1.4	FF	0.9	0.3	-0.3	-0.9	-0.9	-1.3		
1323.0	78/02/21	1	01	1	0	NF											
1324.0	78/01/17	1	01	1	0	NF											
1324.0	79/04/05	2	05	1	0												
1326.0	70/00/00	4	14	1	0												
1326.0	73/03/19	2	04	1	1												
1326.0	74/01/04	2	03	1	1												
1326.0	77/03/10	1	01	1	0	5.0											
1341.0	73/01/22	1	01	1	0	NF											
1344.0	78/03/23	1	01	1	0		1.3	0.7	0.3	-0.0	0.0	-0.3	-0.2	-0.3		2.5	3.9
1376.0	76/00/00	4	14	1	0												
1390.0	70/00/00	4	14	1	0												
1330.0	75/01/05	2	03	1	1												
1380.0	78/03/19	1	01	1	0												
1381.0	73/01/08	1	01	1	0												
1381.0	73/01/11	2	04	1	1												
1381.0	73/03/17	1	01	1	0												
1381.0	73/04/05	2	04	1	1												
1381.0	73/04/06	2	04	1	1												
1381.0	73/04/07	2	12	1	0												
1381.0	73/04/15	2	04	1	1												
1381.0	73/04/17	2	04	1	1												
1381.0	73/04/18	2	04	1	1												
1381.0	73/04/19	2	04	1	1												
1381.0	73/04/27	1	01	1	0		5.9	2.9	-0.2	-3.8	-5.4	-7.3	-7.9	-8.3	-8.4		
1381.0	73/05/02	2	04	1	1												
1381.0	73/05/03	2	04	1	1												
1381.0	73/09/10	1	01	1	0		6.2	4.3	-0.1	-3.5	-5.3	-7.4	-8.0	-8.1	-8.2		
1381.0	73/10/04	1	01	1	0												
1381.0	73/11/28	2	04	1	0												
1381.0	73/11/29	2	04	1	1												
1381.0	73/12/18	2	04	1	1												
1381.0	73/12/19	2	04	1	1												
1381.0	73/12/21	2	04	1	1												
1381.0	74/01/28	2	04	1	1												
1381.0	74/01/29	2	04	1	1												
1381.0	74/02/02	2	04	1	1												
1381.0	74/02/25	2	04	1	1												
1381.0	74/02/27	2	04	1	1												
1381.0	74/03/11	2	04	1	1												
1381.0	74/03/14	2	04	1	1												
1381.0	74/03/14	2	04	1	1												
1381.0	74/04/12	2	04	1	0												

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1381.0	74/04/29	2	04	1	0				2.0	-1.9	-4.1	-6.5	-7.2	-7.4			
1381.0	74/04/30	2	04	1	1							-6.4	-7.2	-7.2			
1381.0	74/05/01	2	04	1	1				1.9	-2.0	-4.1	-6.5	-7.2	-7.4			
1381.0	74/05/02	2	04	1	1												
1381.0	74/05/03	2	04	1	1												
1381.0	74/05/05	2	04	1	1												
1381.0	74/05/07	2	04	1	1												
1381.0	74/07/25	1	01	1	0			3.6	0.6	-3.3	-5.0	-7.2	-7.7	-8.1			
1381.0	74/12/10	2	03	1	1			3.1	0.1	-3.5							
1381.0	75/01/05	2	03	1	1			3.1	-0.1	-3.4							
1381.0	75/03/24	2	03	1	1			3.8	0.5	-3.0	-5.0						
1381.0	75/05/02	2	03	1	1			4.2	1.0	-2.7							
1381.0	77/00/10	1	01	1	0	3.4			2.9	-1.5	-3.4	-6.0	-6.6	-6.8			
1381.0	79/05/29	1	01	1	0			5.8	2.2	-2.0	-4.1	-6.6	-7.2	-7.4	-7.9		
1385.0	78/04/20	1	01	1	0	NF							NF				
1395.0	79/04/18	1	01	1	0	NF											
1403.0	73/03/17	1	01	1	0		6.1	3.6	1.0	-1.6	-3.0	-4.5	-4.9	-5.1	-5.4		
1403.0	73/04/13	2	04	1	1				0.8	-1.8	-3.3	-4.5	-5.2	-5.1			
1403.0	73/10/04	1	01	1	0		6.4	3.7	1.0	-1.9	-3.1	-4.6	-5.0	-5.2			
1403.0	73/12/13	2	04	1	1				1.6	-1.4	-2.8	-4.2	-4.7	-4.7			
1403.0	74/01/28	2	04	1	1				1.9	-1.0	-2.5	-4.0	-4.6	-4.6			
1403.0	74/01/29	2	04	1	0				1.9	-0.9	-2.5	-3.9	-4.5	-4.5			
1403.0	74/02/25	2	04	1	0				2.1	-0.8	-2.4	-3.9	-4.5	-4.5			
1403.0	74/03/11	2	04	1	0				2.3	-0.7	-2.3	-3.9	-4.4	-4.4			
1403.0	74/04/12	2	04	1	0				2.5	-0.6	-2.3	-3.8	-4.4	-4.4			
1403.0	74/04/29	2	04	1	0				2.4	-0.7	-2.2	-3.8	-4.4	-4.5			
1403.0	74/06/01	2	04	1	0				2.5	-0.6	-2.1	-3.7	-4.4	-4.3			
1403.0	74/07/28	1	01	1	0			4.4	1.5	-0.9	-2.5	-4.0	-4.6	-4.8			
1403.0	74/11/15	2	03	1	1			4.0	1.3	-1.4							
1403.0	75/11/26	2	03	1	1			3.8	1.1	-1.5							
1403.0	77/09/10	1	01	1	0	5.0			3.6	-0.1	-1.6	-3.2	-3.9	-3.9			
1403.0	78/04/20	1	01	1	0		6.4	4.2	1.4	-1.7	-3.3	-4.5	-4.9	-5.1	-5.2		
1405.0	72/02/00	5	13	1	0				1.4	-0.9							
1405.0	73/05/02	2	04	1	1				1.3	-0.6	-1.7	-2.9	-3.5	-3.4			
1405.0	73/05/03	2	04	1	1				1.6	-0.4	-1.5	-2.6	-3.2	-3.1			
1405.0	73/05/23	6	01	1	0		5.1	3.3	1.6	-0.3	-1.2	-2.5	-2.9	-3.1	-2.6		
1405.0	73/12/13	2	04	1	0				3.2	0.7	-0.6	-1.9	-2.4	-2.4			
1405.0	73/12/19	2	04	1	1							-1.9	-2.5	-2.4			
1405.0	74/02/02	2	04	1	0				3.2	0.7	-0.5	-1.9	-2.5	-2.3			
1405.0	74/02/25	2	04	1	0				2.9	0.5	-0.8	-2.1	-2.6	-2.5			
1405.0	74/03/11	2	04	1	1				2.7	0.4	-0.9	-2.1	-2.6	-2.6			
1405.0	74/03/14	2	04	1	1							-2.2	-2.7	-2.7			
1405.0	74/04/29	2	04	1	0				2.0	-0.2	-1.3	-2.5	-3.0	-2.9			
1405.0	74/04/30	2	04	1	1							-2.5	-3.0	-2.9			
1405.0	74/11/26	2	03	1	1			3.9	1.1	-1.5							
1405.0	74/12/14	2	03	1	1			3.7	1.0	-1.6	-3.0						
1405.0	77/01/27	2	06	1	0	4.5	6.3	4.4	2.6	0.5	-0.7	-2.1	-2.2	-2.8	-2.8	9.7	
1405.0	77/02/21	1	01	1	0		6.0	4.7	2.2	0.1	-1.0	-2.4	-2.7				
1405.0	77/02/21	2	03	1	1		5.1	3.3	1.6	-0.5							
1417.0	73/02/21	1	01	1	0												NF

# APGL OBSERVATION SUMMARY

APGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1422.0	78/03/23	1	01	1	0		2.7	2.0		1.0	0.9	0.5	-0.0	0.4		4.7	7.0
1423.0	78/04/20	1	01	1	0		2.7	2.0	1.5	1.1	0.9	0.7	0.1	-0.5			
1427.0	70/00/00	4	14	1	0					-1.2	-1.0	-1.6	-1.8				
1421.0	73/04/20	1	01	1	0		2.9	2.3	2.1	1.7	1.6	1.4	1.4				
1433.0	70/00/00	4	14	1	0					0.2	0.3	-0.2	-0.4				
1429.0	70/00/00	4	14	1	0					-1.8	-2.3	-3.6	-3.1				
1439.0	73/01/11	2	04	1	1				-0.6	-1.6	-2.0	-3.3	-3.9	-3.9			
1439.0	74/04/12	2	04	1	1				-0.5	-1.7	-2.3	-3.5	-4.1	-4.1			
1436.0	77/08/24	1	01	1	0				-0.8	-0.0	-0.4						
1451.0	70/00/00	4	14	1	0				-0.8	-0.8	-0.6	-0.9	-0.8			4.3	5.9
1457.0	77/02/15	1	01	1	0	NF	3.3	2.4	2.2	2.0	2.0	1.5	1.3	1.0			
1458.0	78/04/15	1	01	1	0	NF											
1459.0	79/04/18	1	01	1	0	NF											
1474.0	78/02/21	1	01	1	0	2.1	1.9	1.1	0.6	0.3	0.2	-0.4	-1.1	-1.1	-1.4	4.3	6.5
1474.0	78/04/30	1	01	1	0		2.0	1.0	0.6	0.5	0.5	-0.2	-1.2	-1.2			
1474.0	79/04/13	1	01	1	0		1.9	1.0	0.6	0.5	0.4	0.0	-1.1	-1.0			
1511.0	74/02/27	2	04	1	0				0.7	0.3	0.3	-0.1	-1.0	-1.1			
1511.0	78/04/30	1	01	1	0		2.4	1.4	1.0	0.8	0.8	0.3	-0.6	-0.7	-1.1	4.1	6.1
1510.0	70/00/00	4	14	1	0					0.2	0.0	-0.4	-0.7				
1532.0	78/04/30	1	01	1	0	NF											
1535.0	78/04/15	1	01	1	0		1.4	0.4	0.2	0.1	0.3	-0.4	-1.1	-0.9		2.6	4.7
1536.0	77/08/12	1	01	1	0	NF	0.9		0.4	0.5	0.1	0.4	-0.1	-0.6			
1539.0	77/02/15	1	01	1	0												
1549.0	70/00/00	4	14	1	0					0.2	0.5	-0.6	-1.0				
1549.0	76/05/14	2	03	1	1		2.7	1.7	0.8	0.1	-0.2						
1549.0	79/03/05	2	03	1	1				-0.8	0.3	-0.2	-1.5	-2.1	-2.1			
1554.0	74/04/29	2	04	1	0				2.0	-1.2	-1.2	-1.5	-2.1	-2.1			
1565.0	72/02/00	5	13	1	0					-1.6	-1.3	-2.0	-2.4				
1576.0	70/00/00	4	14	1	0		-0.4	-0.4	-0.9	-1.5							
1576.0	74/12/12	2	03	1	1		-1.0	-1.0				-1.6	-2.2	-2.4	-2.7	2.7	3.4
1576.0	77/12/17	2	07	1	0		-0.4	-1.0	-1.0	-1.2	-0.9	-1.8	-2.4	-2.2			
1576.0	78/02/07	1	01	1	0		0.9	-0.1	1.0	-0.2	-1.0	-1.7	-2.3	-2.2			
1579.0	74/04/29	2	04	1	0							-1.7	-2.4	-2.3			
1579.0	74/05/01	2	04	1	1				1.0	-0.2	-0.9	-1.7	-2.4	-2.3			
1579.0	74/05/02	2	04	1	1												
1579.0	75/01/05	2	03	1	1		2.5		1.4	0.4	-0.5	-0.3	-0.5				
1585.0	70/00/00	4	14	1	0					-0.3	-0.0	-1.0	-1.2				
1588.0	71/00/00	4	14	1	0					-0.4	0.0	-1.0	-1.2				
1594.0	73/04/04	2	04	1	0				-1.1	-1.4	-1.4	-1.9	-2.8	-2.8			
1594.0	73/04/05	2	04	1	1				-1.0	-1.4	-1.4	-1.8	-2.6	-2.7	-3.3		
1594.0	73/04/07	2	12	1	0												
1594.0	73/04/17	2	04	1	1												
1594.0	74/03/15	2	04	1	1				-1.0	-1.4	-1.4	-1.9	-2.7	-2.9			
1594.0	79/03/04	2	03	1	1		0.1	-0.8	-1.2	-1.4	-1.4	-1.8	-2.6	-2.7			
1596.0	79/05/16	1	01	1	0	NF											
1602.0	78/04/15	1	01	1	0		2.8	1.9	1.7	1.7	1.8	1.3	1.1			3.8	5.6
1604.0	78/04/15	1	01	1	0		2.2	1.3	1.1	1.2	1.3	1.3	1.1			3.4	4.9
1604.0	79/05/16	1	01	1	0		2.2	1.2	1.0	-2.0	-1.8	-2.3	-3.1				
1606.0	70/00/00	4	14	1	0												

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1506.0	73/04/06	2	04	1	1				-1.7	-2.1	-2.0	-2.4	-3.2	-3.3			
1606.0	73/03/15	2	04	1	0				-1.7	-2.1	-2.0	-2.4	-3.2	-3.4			
1606.0	73/04/22	1	01	1	0				-1.7	-2.1	-2.2	-2.2	-3.0	-3.0			
1612.0	79/04/18	1	01	1	0					0.9	0.8	-0.4	-1.4				
1615.0	79/00/00	4	14	1	0					0.8	0.6	-0.4	-1.5	-1.2			
1615.0	74/05/02	2	04	1	0					1.5	0.9	-0.6	-1.4	-0.7			
1615.0	77/03/12	1	01	1	0					1.0	0.7	0.4					
1615.0	77/02/19	2	03	1	1					1.0	0.7						
1626.0	78/03/08	1	01	1	0					-2.9	-3.0	-3.5	-4.1				
1627.0	78/09/00	4	14	1	0					0.0	-0.5						
1633.0	72/03/00	5	13	1	0					-2.9	-3.4						
1650.0	72/02/27	5	13	1	0					1.9	1.7	1.2	1.3				
1660.0	77/01/27	2	06	1	0					2.0	1.5	0.0	-1.2	-1.2			
1696.0	74/01/28	2	04	1	0					3.2	2.1	0.2	-1.0	-0.9			
1696.0	74/02/27	2	04	1	1					3.2	2.1	0.2	-1.0	-0.9			
1696.0	74/04/11	2	04	1	0					3.2	2.3	1.8	0.5	-0.8			
1696.0	74/04/12	2	04	1	1					3.4	2.4	1.9	0.4	-0.7			
1696.0	74/04/13	2	04	1	1					2.8	1.9						
1696.0	74/05/02	2	04	1	0					3.2	2.3	1.9	0.1	-0.8			
1696.0	75/04/30	2	03	1	0					-3.3	-3.2	-3.3	-3.2	-0.8			
1693.0	73/00/00	4	14	1	0					-3.0	-3.2	-3.1					
1693.0	73/03/24	2	03	1	1					1.1	0.9						
1694.0	72/02/07	5	13	1	0					0.7	0.8	0.2	-0.5	-0.6			
1694.0	76/05/15	1	01	1	0					0.8	0.9	0.5	-0.5	-0.5			
1694.0	78/03/25	1	01	1	0					0.6	0.4	-0.1	-0.6				
1696.0	75/00/00	4	14	1	0					2.6	2.3	2.7	1.4				
1697.0	78/03/08	1	01	1	0					1.7	2.1	-1.7	0.7				
1698.0	78/04/15	1	01	1	0												
1700.0	79/05/16	1	01	1	0					-2.3	-2.3	-2.8	-3.7	-3.7			
1700.0	79/05/22	1	01	1	0					-2.2	-2.5	-2.7	-3.6	-3.7			
1706.0	70/00/00	4	14	1	0					-1.9							
1706.0	74/02/02	2	04	1	1					-2.0	-2.3	-2.7					
1706.0	75/05/02	2	03	1	1					-1.7	-2.1	-2.7					
1706.0	77/12/17	2	08	2	1					-1.7	-2.1	-2.8	-3.6	-3.8			
1706.0	77/12/17	2	08	2	1					-1.9	-2.2	-2.8	-3.6	-3.8			
1706.0	78/03/05	1	01	1	0					0.0	0.4	-0.5	-1.3				
1710.0	70/00/00	4	14	1	0					0.2	0.5	0.1	-0.8				
1724.0	70/00/00	4	14	1	0					0.1	0.3	0.1	-0.1				
1744.0	70/00/00	4	14	1	0					-0.9	-0.7	-0.9	-1.1				
1744.0	78/03/04	1	01	1	0					-1.2	-1.1	-1.4	-1.9	-1.8			
1750.0	79/05/25	1	01	1	0					-1.0	-0.9	-1.4	-1.6	-1.6			
1754.0	79/05/16	1	01	1	0					0.3	0.7	-0.4	-1.8	-1.2			
1756.0	78/04/15	1	01	1	0					1.0	1.2	1.0	1.0				
1760.0	79/05/16	1	01	1	0												
1760.0	79/05/28	1	01	1	0					1.0	1.0	1.4	1.4				
1761.0	78/04/20	1	01	1	0					1.0	1.2	1.2	0.5				
1761.0	78/05/25	1	01	1	0					2.6							
1767.0	72/02/00	5	13	1	0												

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1773.0	73/03/17	1	01	1	0		5.4	3.9	2.5	1.1	0.4	-1.3	-2.1	-2.1	-2.9		
1773.0	73/09/05	1	01	1	0		5.8	4.6	3.3	1.8	1.1	-0.6	-1.4	-1.1			
1773.0	74/01/28	2	04	1	0				3.6	1.9	1.2	-0.2	-1.3	-1.2			
1773.0	74/02/25	2	04	1	0				3.2	1.7	0.8	-0.6	-1.7	-1.5			
1773.0	74/04/11	2	04	1	0				2.8	1.2	0.5	-0.9	-2.1	-2.0			
1773.0	74/04/29	2	04	1	0				2.7	1.2	0.3	-1.0	-2.1	-2.0			
1773.0	74/05/05	2	04	1	0				2.7	1.2	0.3	-1.0	-2.1	-1.9			
1773.0	74/07/26	1	01	1	0	5.1	5.2	3.8	2.4	0.9	0.3	-1.1	-1.8	-1.9		8.4	
1773.0	75/04/30	2	03	1	1			4.8	3.3	1.7	-0.0	-0.6	-1.3				
1801.0	70/00/00	4	14	1	0				2.2	0.2	2.6	> 0.7					
1808.0	72/08/05	1	13	1	0		4.7	3.5	2.8	2.1	1.8	0.5	0.6	0.4	-1.3		
1818.0	73/05/24	6	01	1	0				2.7	1.9	1.6	0.4	-0.9	-0.6			
1818.0	73/06/19	2	04	1	0				2.8	2.0	1.5	0.3	-0.8	-0.6			
1818.0	74/04/29	2	04	1	0		3.0	1.9	1.6	1.5	1.2	0.3	0.4				
1821.0	79/05/29	1	01	1	0	NF											
1822.0	79/05/25	1	01	1	0	NF											
1822.0	79/05/28	1	01	1	0		1.8	0.7	0.6	0.5	0.6	0.2	0.4				
1823.0	77/08/12	1	01	1	0				1.6	1.4	1.4	> 0.9					
1825.0	73/07/15	1	01	1	0		2.7	2.0	2.3	2.1	1.3	1.4	0.2	0.8			
1826.0	77/05/09	1	01	1	0		6.6	5.4	5.4	5.8	-0.4	-1.1	-1.8	-2.0	-2.6		
1826.0	78/04/16	1	01	1	0		2.2	1.2	0.5	-0.1	-0.4	-1.3	-1.9	-2.0		4.2	
1832.0	73/03/17	1	01	1	0		2.0	1.1	0.5	-0.2	-0.5	-1.4	-2.1	-2.7			
1832.0	73/09/05	1	01	1	0				0.1	-0.5	-0.8	-1.2	-2.1	-2.0		5.4	7.7
1832.0	74/04/29	2	04	1	0	2.7	2.0	1.0	0.4	-0.4	-0.7	-1.2	-2.1	-2.0		3.1	3.1
1832.0	74/07/26	1	01	1	0					NF							
1845.0	77/06/26	2	05	1	0		2.8	2.5	2.5	2.8	3.0	2.4					
1845.0	78/03/05	1	01	1	0		5.9	5.5	5.8	5.5	1.6	0.8	0.3				
1855.0	78/04/16	1	01	1	0												
1859.0	70/00/00	4	14	1	0				2.6	1.7		-0.9	-1.6	-1.5		-1.2	
1862.0	72/05/04	1	13	1	0				2.6	1.5	0.7	-0.9	-1.8				
1862.0	72/05/09	1	13	1	0				2.6	1.4	0.7	0.2	-0.9	-1.5			
1862.0	72/09/14	1	13	1	0				3.4	2.2	1.8	0.1	-0.7	-0.9	>-1.7		
1862.0	73/01/26	1	13	1	0		6.0	4.5	3.4	2.3	1.7	-0.7	-0.7	-0.7	-1.9		-0.5
1862.0	73/03/17	1	01	1	0				3.5	2.3	1.7	0.4	-0.7	-0.7	-0.7		
1862.0	73/04/01	2	12	1	0												
1862.0	73/04/06	2	04	1	0												
1862.0	73/04/17	2	04	1	1												
1862.0	73/04/18	2	04	1	1												
1862.0	73/05/02	2	04	1	0												
1862.0	73/06/08	2	04	1	0												
1862.0	73/06/13	1	01	1	0		5.7	4.3	3.3	2.3	1.5	0.4	-0.7	-0.6			
1862.0	73/06/19	1	01	1	0		4.7	3.6	3.3	2.1	1.5	0.2	-0.8	-0.4			
1862.0	73/09/05	1	01	1	0				3.2	1.9	1.5	0.2	-1.0	-0.4			
1862.0	74/01/28	2	04	1	0				2.7	1.6	1.0	-0.6	-1.6	-1.5		> 6.2	
1862.0	74/02/14	2	04	1	0				2.5	1.5	1.0	-0.3	-1.5	-1.3			
1862.0	74/03/14	2	04	1	1				2.6	1.7	1.0	-0.1	-1.2	-1.1			
1862.0	74/04/13	2	04	1	1							-0.0	-1.2	-1.0			
1862.0	74/04/29	2	04	1	0				2.8	1.9	1.3	0.0	-1.2	-1.0			
1862.0	74/07/26	1	01	1	0	5.6	5.5	4.2	3.3	1.9	1.4	-0.2	-1.1	-1.1		7.9	
1863.0	74/04/30	2	04	1	1												



[illegible]

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
1988.0	73/03/17	1	01	1	0		2.4	1.5	1.0	0.4	0.0	-1.4	-2.2	-2.2	-3.1		
1988.0	73/09/05	1	01	1	0		3.1	2.2	1.9	0.9	0.7	-0.7	-1.5	-1.4			
1988.0	74/05/01	2	04	1	0				1.5	0.5	0.1	-0.9	-2.1	-1.0			
1988.0	74/07/26	1	01	1	0				1.0	0.2	-0.2	-1.5	-2.4	-2.4		5.0	7.5
1992.0	77/04/09	1	01	1	0	3.2	2.5	1.6	2.4	2.8	0.0	-1.6	-2.2	-2.9			
1996.0	73/05/23	1	06	1	0		5.9	4.5	3.5	2.4	2.0	0.8	-0.6				
1997.0	72/05/23	5	13	1	0		4.8	3.1	2.1	1.0	0.4	-0.9	-2.2	-2.4	-3.0		
1997.0	73/05/23	1	06	1	0		4.4	3.2	2.2	1.2	0.5	0.3	-0.9	-0.9			
2002.0	78/01/11	1	01	1	0	2.4	2.2	1.7	1.4	1.6	1.1	1.7	1.7				
2004.1	78/07/03	2	05	2	0		11.1	8.3	6.5	5.2		4.6					
2004.2	78/07/03	2	03	1	0		11.0	8.1	6.2	4.8							
2004.2	78/07/03	2	05	2	0		>11.4	10.3	6.7	3.5							
2004.2	78/08/11	1	01	1	0		>13.0	10.1	6.7	3.2	1.5	-0.3					
2004.2	78/05/06	2	03	1	0				6.9	2.0	2.0	2.0	0.6	-1.3			
2004.2	78/05/06	2	03	1	0		>11.8	9.6	7.0	5.4	1.6	0.2					
2006.0	78/07/04	2	04	1	0				2.3	NF							
2009.0	78/07/04	2	04	1	0				2.3	2.3	2.7						
2012.0	76/05/03	1	01	1	0				1.2	1.0	1.1	0.9	0.8	1.0			
2014.0	72/04/04	2	04	1	0				1.9	1.0	0.4	-0.9	-2.1	-2.0			
2016.0	74/04/13	2	04	1	0		3.6	2.6	2.0	1.1	0.2	-1.5	-2.5	-2.7		6.6	
2016.0	76/06/03	1	01	1	0			6.4	4.3	2.0	0.9	-0.6	-1.3	-1.8			
2019.0	77/05/09	1	01	1	0			10.0	6.6	3.4							
2023.1	76/05/11	2	03	1	0			9.8	6.6	3.7	1.2	-0.8	-1.1	-1.4			
2023.1	76/05/12	2	03	1	0				8.6	2.5							
2023.2	76/05/11	2	03	1	0				3.8	3.5	3.3						
2023.2	77/04/06	1	01	1	0			4.2	1.4	1.1	1.2	-0.8	-2.2	-2.1			
2024.0	76/06/02	1	01	1	0		2.7	2.0								5.6	7.6
2028.0	72/05/15	2	15	1	0												
2028.0	73/08/00	1	01	1	0		4.7	4.4	3.3	1.8	1.1	-0.6	-0.9	-0.9			
2028.0	76/05/13	2	03	1	0			4.2	2.8	2.0	0.2	-1.3	-2.0				
2040.0	70/02/00	4	14	1	0				2.5	2.4	2.4						
2046.0	76/06/07	1	01	1	0					FF							
2046.0	77/06/27	2	05	1	0				2.2	1.8							
2046.1	77/06/07	2	05	1	0				5.0	2.1	2.4						
2047.0	76/06/07	1	01	1	0				4.7	2.2	0.7	-0.0	-0.8	-1.5			
2047.0	77/04/09	1	01	1	0				2.2	0.1	-1.1	-2.3	-2.4	-2.5			
2048.0	73/06/20	2	04	1	0												
2048.0	73/09/28	2	12	1	0												
2048.0	74/06/01	2	04	1	0				4.3	2.3	0.2						
2051.0	76/05/09	2	03	1	0					NF							
2051.0	76/07/03	2	05	2	0				7.1	5.7		1.0	-0.0				
2052.1	72/05/07	2	12	1	0												
2052.1	72/05/12	2	04	1	0												
2052.1	72/05/15	2	15	1	0												
2052.1	79/05/18	2	03	1	0												
2052.2	75/05/15	2	15	1	0												
2052.2	79/05/18	2	03	1	0												
2053.0	78/03/09	1	01	1	0												
2053.0	78/08/11	1	01	1	0	NF											

# AFGI OBSERVATION SUMMARY

AFGI#	DATE	CPS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2054.0	73/05/21	6	01	1	0		3.0	2.7	1.5	0.2	-0.4	-1.3	-3.0	-2.7	-3.4		
2054.0	73/05/19	2	04	1	0				1.3	0.1	-0.6	-2.1	-3.2	-3.1			
2054.0	73/05/19	2	04	1	1					0.1		-2.1	-3.2	-2.0			
2054.0	73/05/15	1	01	1	0		3.1	1.5	0.7	0.0	-0.5	-2.6	-3.5	-3.4	-3.3		
2057.0	74/07/05	2	04	1	0								PF				
2057.0	78/03/15	1	01	1	0			6.7	6.4	PF							
2057.0	78/03/21	1	01	1	0					2.4	0.9	-0.6	-0.6	-1.7			
2059.0	77/05/09	1	01	1	0				5.1	2.3	1.3	-0.6	-1.1	-1.6			
2059.0	77/06/09	2	04	1	1												
2059.0	77/06/10	2	04	1	1												
2061.0	78/05/25	1	01	1	0		2.9	1.7	1.7	1.1	0.8	-0.5	-1.7	-1.7	-2.5		
2062.0	73/05/24	6	01	1	0		4.3	3.4	3.6	1.8	1.3	-0.5	-2.1	-1.8			
2063.0	77/05/09	1	01	1	0			3.7	3.6	3.6	3.3						
2063.0	77/06/26	2	05	1	0		10.8	8.4	6.2	4.4							
2065.0	76/06/05	1	01	1	0		2.9	1.9	1.4	1.5	0.6	-0.4	-1.2				
2067.0	72/03/11	2	04	1	0				3.1	1.1	0.0	-1.3	-2.0	-1.8			
2067.0	76/06/05	1	01	1	0		5.5	3.5	2.0	-0.1	-0.8	-1.0	-2.5	-2.7			
2070.0	77/07/23	1	01	1	0		2.4	1.5	1.2	1.1		0.4					
2071.0	71/03/13	5	13	1	0				-0.7	-1.5	-2.3	-3.6	-5.1	-4.8	-5.8		
2071.0	72/02/27	5	13	1	0				0.2	-1.0	-1.5	-2.0	-4.4	-4.3	-5.1		
2071.0	73/05/20	2	04	1	1				-1.6	-2.2	-3.5	-4.7					
2071.0	73/05/20	2	04	1	1				-0.5	-1.7	-2.3	-3.6	-4.8	-4.7			
2071.0	74/05/02	2	04	1	1				0.2	-1.1	-1.7	-3.0	-4.2	-4.1			
2071.0	76/05/11	2	03	1	1			0.9	-0.0	-1.1							
2074.0	78/07/03	2	05	2	0					PF							
2074.0	78/08/09	1	01	1	0				5.8	4.5							
2074.0	78/08/11	1	01	1	0												
2074.0	78/10/09	2	07	1	0												
2077.0	73/03/04	2	04	1	0				1.0	0.7	0.9	0.6	-0.3	-0.3			
2080.0	77/05/27	2	05	1	0					PF							
2080.0	77/05/27	2	05	1	0		9.6	8.2	7.2	6.1							
2080.0	77/06/27	2	05	1	0		10.4	8.6	7.7	7.1							
2082.0	72/05/21	5	13	1	0		4.4	3.2	2.2	1.2	0.5	0.3	-0.9	-0.9			
2083.0	76/05/07	2	03	1	0		4.4	3.0	2.1	1.4	0.9	-0.8	-1.6	-0.6			
2085.0	76/05/22	2	03	1	0			7.1	4.8	2.5							
2085.0	76/07/15	1	01	1	0			7.0	5.0	2.7	0.1						
2085.0	76/07/15	1	01	1	0			10.7	7.2	3.2							
2088.0	75/05/24	2	03	1	1					3.5	1.4	-0.4	-1.1	-1.7			
2088.0	76/07/15	1	01	1	0					3.5	1.5	-0.7	-1.2	-1.5			
2088.0	77/06/10	2	06	1	1							0.2					
2092.0	77/07/23	1	01	1	0			2.0	1.9	2.0							
2094.0	77/08/25	2	06	1	0		12.2	8.4	6.1	4.6	3.4	PF	PF	PF			
2096.0	78/03/20	1	01	1	0					5.1							
2102.0	73/05/24	6	01	1	0		4.0	3.0	2.4	1.2	0.3	-1.1	-1.7	-1.8	-2.6		
2103.0	73/05/24	6	01	1	0		2.7	1.7	1.2	0.4	0.1	-1.3	-2.8	-2.8	-3.3		
2104.0	74/05/11	2	04	1	0				4.1	1.6	0.1	-1.3	-1.5	-1.8			
2104.0	74/05/01	2	04	1	0				4.1	1.6	0.0	-1.3	-1.4	-1.8			
2104.0	76/05/09	2	03	1	1			6.5	4.1	1.7							
2105.1	76/10/09	2	03	1	0			10.5	8.7	7.7	7.3						
2105.2	76/10/09	2	03	1	0			>11.6	9.3	7.4	5.9						

3.8

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2107.0	77/06/27	2	05	1	0				FF								
2107.1	77/06/27	2	05	1	0		11.6	9.5	8.5	7.1							
2107.2	77/06/27	2	05	1	0		9.9	8.4	7.6	7.0							
2108.0	77/06/27	2	05	1	0		11.8	9.9	8.4	NF							
2109.0	77/06/26	2	05	1	0												
2109.0	78/07/04	2	05	2	0		9.9	6.7	5.3	4.4							
2110.0	78/07/18	1	01	1	0	NF											
2113.1	76/09/07	1	01	1	0			5.0	4.3	3.9							
2113.1	76/10/09	2	03	1	0		6.0	4.7	3.9	3.5							
2113.2	76/10/09	2	03	1	0		12.3	10.4	7.9	6.0							
2114.0	74/04/12	2	04	1	0				1.6	1.0							
2114.0	74/04/13	2	04	1	0				1.6	1.1	1.4	0.4	0.1	0.1			
2117.0	77/06/27	2	05	1	0	NF											
2117.0	78/05/28	1	01	1	0												
2118.0	74/07/05	2	04	1	0												
2118.0	79/07/18	1	01	1	0		7.0	4.9	3.4	1.4	0.1	-0.2	FF	-1.2			
2122.0	73/05/24	6	01	1	0		5.1	3.6	2.6	1.6	1.2	-0.4	-1.6	-1.8	-2.5		
2123.0	76/06/07	1	01	1	0				1.9	1.7	2.0	0.6	0.5				
2127.0	74/05/01	2	04	1	0				2.2	1.0	0.8	-0.4	-0.9	-1.1			
2127.0	76/06/07	1	01	1	0				2.5	1.5	1.1	-0.1	-0.5				
2132.0	73/09/27	2	12	1	0					3.2	1.9	-1.5	-2.0	-4.4			
2132.0	73/09/29	2	04	1	1					2.9		-1.6	-2.3	-2.7			
2132.0	75/05/03	2	03	1	0			7.4	5.4	2.9	0.6	-0.3	0.2	-1.4	-3.3		
2136.0	77/04/06	1	01	1	1				7.2	3.1	0.6	-0.7	-0.9	-1.9			
2136.0	77/04/29	2	04	1	1					2.8							
2136.0	78/04/28	2	03	1	1		>11.6	9.7	6.5	0.5	-1.5	-0.8	-0.2	-0.9	-1.8	-2.1	
2136.0	78/05/22	2	07	1	0			2.8	0.8	-0.0	-0.4	-1.5	-3.0	-3.1			
2139.0	74/05/01	2	04	1	0				1.0	0.3	-0.0	-1.3	-2.6	-2.4			
2139.0	76/05/07	1	01	1	0		2.4	1.7	2.5	1.7	0.0	0.0	0.4				-0.2
2142.0	72/05/09	1	13	1	0				6.9	3.5	2.0	-0.1	0.2	-0.7			
2143.1	77/04/06	1	01	1	0					2.2	2.6						
2143.2	77/04/06	1	01	1	0					NF							
2147.0	77/06/26	2	05	1	0	NF											
2152.0	79/07/18	1	01	1	0			8.1	5.0	1.8							
2154.0	76/05/14	2	03	1	1												
2155.1	76/06/22	2	03	1	1			9.6	6.2	2.5							
2155.1	76/06/26	2	03	1	1												
2161.0	78/08/11	1	01	1	0	NF											
2162.0	76/06/07	1	01	1	0		2.8	1.7	1.2	1.0	0.6	-0.4	-1.8	-1.6			
2164.0	76/06/07	1	01	1	0				3.1	2.4							
2165.0	73/07/15	1	01	1	0		6.7	4.8	3.3	1.6	0.9	-0.8	-1.2	-1.4			
2165.0	76/05/13	2	03	1	1			4.6	2.9	1.5	2.0	1.7	-0.8	-0.7			
2166.0	76/06/07	1	01	1	0		6.0	4.3	3.2	2.4	2.1	-0.1	-1.0				
2168.0	76/06/07	1	01	1	0												
2169.0	78/04/15	1	01	1	0												
2171.0	76/06/07	1	01	1	0		5.1	3.9	3.0	2.1	1.1	-0.2	-1.4	-1.4		7.1	8.1
2171.0	76/05/03	1	01	1	0		5.0	3.8	2.8	1.9	1.2	-0.6	-1.3	-1.0		6.6	7.8
2174.1	77/06/27	2	05	1	0		8.1	5.6	4.1	2.5	2.4	0.8	-0.1	-0.1	-1.0	-0.9	
2174.2	77/07/12	1	01	1	0			5.9	4.3	2.9	2.4	0.4	-0.5	-0.6	-1.0	-0.9	
2174.2	78/05/22	2	07	1	0			2.8		1.9	0.4	0.4	-0.5	-0.6	-1.0	-0.9	

# AFGL ORSPERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2177.0	74/06/26	2	04	1	0				5.2	4.3			NF				
2177.0	77/06/26	2	04	1	0		7.4	6.3	5.7	2.4	0.5	-1.3	-1.7	-2.0			
2178.0	74/05/30	2	04	1	0	NF				NF							
2178.0	73/04/13	1	01	1	0				5.5	3.8	2.7						
2188.2	76/06/11	1	01	1	0				5.5	4.8							
2188.3	79/08/20	1	01	1	0				5.1	4.8							
2192.0	74/06/01	2	04	1	0				3.5	1.9	1.1	-0.3	-1.3	-1.3			
2205.0	74/05/03	2	04	1	1				7.6	1.9	-0.3	-2.2	-2.1	-3.3			
2205.0	74/05/23	2	04	1	1												
2205.0	74/06/01	2	04	1	1				9.3	2.7	0.2	-2.1	-2.1	-3.1			
2205.0	75/03/24	2	03	1	1				9.5	2.9							
2205.0	75/04/28	2	03	1	1			>12.2	9.6	2.9							
2205.0	75/05/24	2	03	1	0				9.6	3.0							
2205.0	75/06/16	2	03	1	0				2.1	2.2							
2205.0	76/05/11	2	03	1	0				8.2	1.7							
2205.0	76/06/20	2	03	1	1				7.8	1.9	-0.5	-2.3	-2.3	-3.6			
2205.0	76/06/25	2	04	1	1				6.6	1.0	-1.3	-3.0	-3.0	-4.0			
2205.0	77/04/21	2	04	1	1				0.5	-0.4	-2.6	-2.6	-3.6	-3.6			
2206.0	72/05/09	1	13	1	0				1.2	0.1	-0.3	-1.9	-2.8	-2.4			
2206.0	72/09/14	1	13	1	0				1.2	0.1	-0.4	-1.9	-3.1	-2.9			
2206.0	73/01/26	1	13	1	0				0.8	-0.3	-0.8	-2.5	-3.6	-3.3	-3.8		
2206.0	73/03/26	1	01	1	0												
2206.0	73/04/01	2	12	1	0				0.9	-0.3	-0.8	-2.5	-3.5	-3.2	-4.1		
2206.0	73/04/07	2	12	1	0				0.5	-0.4	-1.0	-2.3	-3.7	-3.3			
2206.0	73/05/04	2	04	1	0				0.3	-0.6	-1.1	-2.4	-3.6	-3.3			
2206.0	73/06/08	2	04	1	0				0.3	-0.5	-0.8	-2.6	-3.6	-3.4		7.1	
2206.0	73/09/05	1	01	1	0				1.1	0.0		-1.6	-2.8	-2.7			
2206.0	74/04/30	2	04	1	0				1.1	0.0	-0.5	-1.6	-2.8	-2.7			
2206.0	74/05/06	2	04	1	1				0.6	-0.6	-1.1	-2.6	-3.6	-3.5			
2206.0	74/07/25	1	01	1	0	3.0	2.3	1.3	0.6	-0.6	-1.1	-2.6	-3.6	-3.5	-3.0	5.0	7.1
2206.0	79/04/15	1	01	1	0		4.3	2.7	1.5	0.2	-0.6	-2.0	-2.8	-2.6			
2217.0	70/03/00	4	14	1	0				-0.5	-0.3	-0.3	-0.4	-0.7				
2223.0	74/04/29	2	04	1	0				2.4	1.1	0.3	-1.1	-2.0	-1.9			
2227.0	73/07/02	1	01	1	0		4.1	3.1	2.4	1.2	0.9	-0.9	-2.0	-1.8			
2227.0	74/05/01	2	04	1	0				2.4	1.2	0.5	-0.9	-2.4	-2.4			
2229.0	76/05/05	1	01	1	0		3.8	2.7	2.2	1.9	1.7	0.1	-1.5	-1.4			
2230.0	72/06/29	1	13	1	0				2.4	1.6		0.4	-1.3				
2230.0	73/03/17	1	01	1	0		4.4	2.9	2.2	1.6	1.2	0.0	-1.1	-1.3	-1.4		
2230.0	73/04/15	2	04	1	0				2.1	1.5	1.4	0.2	-1.2	-1.4			
2230.0	73/06/17	2	04	1	0				2.3	1.5	-0.3	0.4	-1.1	-1.2			
2230.0	73/07/05	1	01	1	0		7.2	5.6	3.4	0.6	-0.3	-2.2	-2.5	-2.6			
2230.0	73/09/05	1	01	1	0		4.3	2.8	2.2	1.5	1.5	-0.2	-1.0	-1.4			
2230.0	74/05/02	2	04	1	0				2.4	1.6	1.3	0.5	-1.1	-1.2			
2232.0	72/06/25	1	13	1	0				1.4	-0.8	-1.7	-3.0	-3.4	-0.4			
2232.0	73/01/26	1	13	1	0				2.4	0.0	-1.2	-2.7	-3.3	-3.4			
2232.0	73/03/26	1	01	1	0		7.2	4.9	2.7	0.3	-0.8	-2.4	-3.1	-3.2	-3.5		
2232.0	73/04/05	2	04	1	0				2.7	0.5	-0.9	-2.3	-2.9	-2.8			
2232.0	73/04/06	2	04	1	1				2.7	0.5	-0.9	-2.3	-2.9	-2.8			
2232.0	73/04/06	2	04	1	1												-2.9

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2232.0	73/04/07	2	12	1	0				2.6	0.4	-0.9	-2.3	-3.1	-3.0	-3.6		-2.6
2232.0	73/05/04	2	04	1	0				2.6	0.3	-1.1	-2.3	-3.0	-3.0			
2232.0	73/06/08	2	04	1	0		6.0	4.0	2.0	-0.3	-1.3	-2.7	-3.2	-3.4			
2232.0	73/09/05	1	01	1	0				1.4	-0.7	-1.8	-3.0	-3.6	-3.5			
2232.0	73/10/26	2	04	1	0				1.6		-1.7	-2.9	-3.4	-3.5			
2232.0	74/05/01	2	04	1	0	4.7	6.3	4.4	2.5	-0.2	-1.3	-2.7	-3.1	-3.4			
2232.0	74/07/25	1	01	1	0		4.4	2.6	0.8	-1.0		-2.1					
2232.0	79/10/13	2	03	1	1			-0.9	-2.0	0.6	-2.9	-3.0	-3.6	-2.8		-3.6	
2232.0	79/10/15	2	07	2	1				3.2		-0.6	-2.2	-2.7	-2.7			
2233.0	73/09/22	2	04	1	0				2.6	0.1	-1.2	-2.6	-3.2	-3.2			
2233.0	74/04/29	2	04	1	0							-2.6	-3.1	-3.1			
2233.0	74/04/30	2	04	1	1				1.4	0.3	-0.2	-2.6	-2.6	-2.3			
2241.0	72/09/28	1	13	1	0				1.6	0.5	0.1	-1.5	-2.6	-2.6			
2241.0	73/01/26	1	13	1	0				1.8	0.8	0.5	-1.3	-2.3	-2.3			
2241.0	73/03/23	1	01	1	0	2.7			1.8	0.9	0.6	-0.9	-2.0	-1.9			
2241.0	73/04/15	2	04	1	1												
2241.0	73/04/19	2	04	1	1				2.1	1.3	0.6	-0.7	-1.7	-1.6			
2241.0	73/05/02	2	04	1	1				2.2	1.1	0.6	-0.8	-2.0	-1.7			
2241.0	73/05/04	2	04	1	0				2.2	1.3	0.7	-0.7	-1.8	-1.7			
2241.0	73/05/18	2	04	1	0				2.4	1.1	0.7	-0.7	-1.8	-1.7			
2241.0	73/06/18	2	04	1	0				2.2	1.2	0.7	-0.7	-1.8	-1.7			
2241.0	73/09/05	1	01	1	0	4.2	3.2		2.0	0.9	0.5	-1.1	-1.9	-1.7		> 7.8	
2241.0	73/10/26	2	04	1	0				2.0	0.9	0.3	-1.0	-2.0	-1.8			
2241.0	74/05/11	2	04	1	1				1.1	0.2	-0.3	-1.5	-2.6	-2.4			
2241.0	79/10/14	2	03	1	1	3.7	2.7		1.8	0.7		0.1	-2.7			-2.4	
2241.0	79/10/15	2	07	2	1	>12.3	10.3	0.9	-0.2	5.6	-0.9	-1.4					
2245.0	79/03/06	2	03	1	1				8.1	3.7	3.9						
2252.1	78/08/20	1	01	1	0		7.1		5.1	3.0	2.8		0.9				
2252.2	79/08/20	1	01	1	0				4.3	3.0			-0.9				
2254.0	72/06/29	1	13	1	0				3.0	1.7		0.5	-1.5				
2254.0	72/12/10	1	13	1	0				2.8	1.9	1.6	0.5	-1.5				
2254.0	73/01/17	1	01	1	0				2.8	1.8	1.4	0.1	-0.9	-1.1	-1.9		-1.2
2254.0	73/07/06	1	01	1	0	5.5	3.9		2.9	1.8	1.7	0.2	-0.6	-0.4	-2.0		
2254.0	74/05/02	2	04	1	0	5.9	3.9		2.0	1.8	1.2	-0.1	-1.4	-1.5			
2254.0	79/10/15	2	03	1	1				3.2	1.9		1.2					
2254.0	79/10/17	2	07	2	0				5.0	1.9	0.3	-1.6	0.9	-0.2		-0.4	
2259.0	74/05/06	2	04	1	0					0.2	0.6	-0.2	-2.2	-2.2			
2260.0	77/08/09	4	14	1	0				2.9	1.7	1.7	0.1	-0.4	-1.4			
2272.0	72/08/09	1	13	1	0				2.9	1.6	1.2	-0.4	-1.6	-1.9			
2272.0	73/04/13	1	01	1	0	7.0	4.5		2.9	1.8	1.3	-0.2	-1.6	-1.7	-2.3		
2272.0	73/05/03	2	04	1	1				2.9	1.8		-0.2	-1.7	-1.7			
2272.0	73/05/04	2	04	1	1							-0.5	-1.8	-1.9			
2272.0	73/05/20	2	04	1	0				2.8	1.6	1.1		-0.5	-1.8			
2272.0	73/05/22	2	04	1	0				2.7	1.5	1.1		-0.6	-1.9			
2272.0	73/06/05	1	01	1	0	7.8	4.4		2.8	1.5	1.2	-0.6	-1.8	-1.6			
2272.0	74/05/01	2	04	1	0				2.6	1.4	0.9	-0.4	-1.8	-1.7			
2285.0	77/06/27	2	05	1	0				NE								
2285.0	70/06/00	4	14	1	0				-2.2	-2.0	-2.2	-2.2	-2.4				

ADDENDUM TO THE 1936

[illegible]

# AFGL OPSEVATION SUMMARY

AFGL#	DATE	OES	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2350.0	77/04/09	1	01	1	0		6.4	3.5	1.9	0.9	-0.7	-2.8	-3.6	-3.7			
2356.0	72/10/19	1	13	1	0				1.8	1.5	1.4	> 0.2					
2356.0	77/07/23	1	01	1	0		2.9		1.6	1.3	1.1	0.7	0.1				
2359.0	76/10/06	2	05	1	0					NF							
2359.1	76/10/09	2	05	1	0				FF	FF							
2359.2	76/10/09	2	05	1	0		>11.9	9.7	7.9	7.1							
2361.0	77/04/09	1	01	1	0		3.9	2.9	2.2	1.1	0.4	-1.1	-1.8	-2.2			
2362.0	77/04/09	1	01	1	0				7.5	3.7	2.1	0.5	0.1	0.4			
2368.0	74/05/02	2	04	1	0				2.6	0.3	-0.9	-2.1	-2.8	-2.8			
2368.0	76/06/03	1	01	1	0		5.3	4.0	1.8	-0.4	-1.5	-2.7	-3.3	-3.9			
2368.0	76/06/25	2	03	1	1		3.6	1.7	-0.4								
2368.0	76/06/25	2	03	1	1		6.0	3.8	2.7	0.2	-1.0	-2.5	-3.0	-3.2			
2371.0	77/06/26	2	05	1	0					NF							
2371.0	78/07/33	2	05	2	0					NF							
2371.0	78/07/33	2	07	1	0	NF											
2371.0	79/01/10	1	01	1	0	NF											
2373.0	72/06/00	1	01	1	0		4.4	3.7	2.7	1.6	1.2	-0.1	-0.9	-0.9			
2374.0	77/05/26	2	05	1	0		10.6	7.7	4.8	1.8							
2374.0	77/07/12	1	01	1	0				5.5	2.0	1.1	-1.1	-1.1	-1.7			
2374.0	79/10/15	2	03	1	1		10.5	7.8	4.8	2.0		0.7					
2376.0	76/10/06	2	05	1	0					NF							
2376.0	78/07/03	2	05	2	0					NF							
2376.1	76/06/23	2	03	1	0				6.2	5.7							
2376.2	76/10/09	2	05	1	0		11.7	9.1	7.8	7.2							
2381.0	75/01/04	1	01	1	0				7.0	4.4	1.7	-0.8	-1.6	-3.0	-5.1		
2381.0	77/10/24	2	03	1	1		10.2		7.5								
2383.0	70/00/00	4	14	1	0					-1.3	-1.5	-2.1	-2.6				
2384.0	70/00/00	4	14	1	0					0.2	0.3	-0.3	-0.4				
2386.0	74/07/27	1	01	1	0	4.8	4.8	3.7	2.6	0.4	-0.8	-3.4	-4.6	-4.1		8.7	
2390.0	74/11/08	2	01	1	0		4.8	3.7	2.6	0.6	-0.6	-3.2	-4.6	-4.7	-6.4		
2390.0	77/09/01	1	01	1	0		5.2	3.8	2.9	0.9	-0.2	-3.0	-4.4	-4.0			
2392.0	76/09/10	1	01	1	0		6.6	4.9	3.2	1.2	0.9	-0.6	-0.9	-1.1			
2392.0	79/10/11	2	03	1	0		7.8	5.9	4.1	2.4		1.3					
2392.0	79/10/13	2	03	1	1		7.7	5.8	3.9	2.2		1.0					
2392.0	79/10/17	2	07	2	1		2.6		1.3		0.5	0.1	-0.4		-0.4		
2416.0	70/00/00	4	14	1	0					0.5	0.8	-0.0	-0.5				
2417.0	72/09/14	1	13	1	0				2.0	-0.2	-1.1	-2.5	-3.0	-2.9			
2417.0	73/02/08	1	13	1	0				2.8	0.7	-0.5	-2.0	-2.6	-2.8	-2.9		
2417.0	73/04/13	1	01	1	0		6.3	4.7	2.7	0.7	-0.3	-1.9	-2.3	-2.6	-2.6		
2417.0	73/05/02	2	04	1	0				2.6	0.7	-0.4	-1.9	-2.5	-2.5			
2417.0	73/05/03	2	04	1	1				2.6	0.6	-0.4	-2.0	-2.5	-2.5			
2417.0	73/06/17	2	04	1	0				2.3	0.4	-0.7	-2.2	-2.8	-2.8			
2417.0	73/06/18	2	04	1	1												
2417.0	73/09/05	1	01	1	0		6.0	4.0	2.4	0.3	-0.6	-2.2	-2.7	-2.9		7.6	
2417.0	73/10/26	2	04	1	0				1.8	-0.1	-1.2	-2.6	-3.1	-3.0			
2417.0	74/07/27	1	01	1	0		5.8	3.9	2.1	0.0	-1.0	-2.5	-2.7	-2.9			
2422.0	70/00/00	4	14	1	0					0.2	0.2	-0.7	-1.3				
2425.0	79/10/15	2	03	1	1		3.8	3.0	2.4	1.6		1.2					
2428.0	74/06/26	2	04	1	0												
2428.0	76/09/10	1	01	1	0	6.5		5.8	4.1	2.0	1.3	0.1	-0.3	-0.3			



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# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2511.0	73/09/05	1	01	1	0		4.2	3.0	2.1	1.2	0.9	-0.7	-1.7	-1.6		7.2	
2511.0	77/08/08	1	01	1	0		5.0	3.7	2.7	1.8	1.4	-0.1	-1.8	-1.1			
2512.0	77/07/23	1	01	1	0		3.4		2.3	1.8	1.6	0.6	0.4			5.8	
2512.0	73/10/25	2	10	1	0				3.7	1.6	0.3						
2513.0	73/10/25	2	04	1	0				3.7	1.5	0.3	-1.3	-2.0	-1.9			
2513.0	74/12/03	2	03	1	1			4.9	2.9	0.7							
2513.0	77/04/09	1	01	1	0			4.6	2.6	0.5	-0.5	-2.1	-2.7	-2.8			
2514.0	76/05/02	1	01	1	0		6.5	3.8	1.9	-0.3	-1.7	-3.7	-4.2	-4.8			
2514.0	76/08/29	2	03	1	1			3.9	1.6	-0.5							
2519.0	77/05/10	1	01	1	0				2.1	2.6	1.3	1.1					
2519.0	77/07/22	1	01	1	0	5.3	5.1	3.8	2.8	2.1	3.0						
2528.0	70/00/00	4	14	1	0	5.3	4.2	3.1	3.1	1.2	1.3	0.7	0.5				
2549.0	76/09/07	1	01	1	0	NF											
2549.0	76/11/29	2	04	1	0					NF							
2549.0	77/05/27	2	05	1	0					NF							
2549.0	77/08/19	1	01	1	0					NF							
2549.0	76/08/20	1	01	1	0	NF											
2551.0	77/03/19	1	01	1	0		3.7	2.8	2.4	2.2	2.7	2.0	0.7	1.2			
2554.0	76/03/07	1	01	1	0	NF											
2554.0	75/09/07	1	01	1	0	NF				FF							
2554.0	76/11/29	2	04	1	0												
2554.0	76/12/11	1	01	1	0												
2554.0	77/04/09	1	01	1	0					NF							
2554.0	77/08/19	1	01	1	0					NF							
2554.0	79/05/17	2	03	2	0		13.4	12.1	9.7	6.0		4.3	6.6		7.1		
2554.1	78/10/08	2	07	1	0	FF											
2554.2	78/10/08	2	07	1	0			4.0	2.8		-0.3	1.8	1.3	1.1	0.9	0.6	
2556.0	70/00/00	4	14	1	0					0.0	-0.3	-1.0	-1.6				
2559.0	75/10/25	1	01	1	0	2.8	2.2	1.2	0.7	0.2	0.2	-1.2	-2.7	-2.5	-3.6	4.0	6.2
2559.0	75/12/15	0	00	1	0												
2560.0	73/10/14	1	01	1	0		2.3	0.8	0.2	-0.4	-0.4	-1.7	-2.8	-2.6	-2.8		
2560.0	75/10/25	1	01	1	0	2.6	2.0	0.9	0.3	-0.1	-0.2	-1.4	-3.0	-2.8	-4.0	4.0	6.4
2560.0	75/12/16	1	01	1	0	2.6	2.0	0.9	0.4	-0.2	-0.2	-1.6	-3.0	-3.0	-3.3	4.3	6.7
2560.0	76/12/11	1	01	1	0										NF		
2570.0	72/10/19	1	13	1	0				2.5	1.7	1.3		-0.4				
2578.0	76/12/11	1	01	1	0												
2586.0	76/12/11	1	01	1	0					0.0	-0.0	-0.9	-2.8				
2590.0	70/00/00	4	14	1	0					0.0	0.0	-0.9	-2.6	-2.5			
2590.9	73/05/19	2	03	1	1			0.9		0.5	0.0						
2590.9	74/11/12	2	04	1	1					0.5	0.1						
2591.0	73/10/01	2	04	1	1					5.0	-0.5	-2.0	-2.4	-3.5			
2591.0	73/10/02	2	04	1	1					5.2	-0.5	-2.1	-2.4	-3.4			
2591.0	73/10/06	2	04	1	1						-0.5	-2.1	-2.5	-3.5			
2591.0	73/10/23	2	10	1	1					4.9	-0.6						
2591.0	73/10/24	2	10	1	1					5.1	-0.5						
2591.0	73/10/25	2	10	1	1						-0.5						
2591.0	73/11/26	2	11	1	1						-0.5						
2591.0	74/05/01	2	04	1	0										-4.2		
2591.0	74/11/16	2	03	1	1												
2591.0	74/12/07	2	03	1	1		9.1	5.5	1.8		-0.4						
2591.0	74/12/07	2	03	1	1		9.3	5.4	2.0								

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OFF	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2501.0	75/10/06	2	05	1	0		11.5	9.1	5.4	1.9	-0.3	-1.7	-1.5	-3.1			
2501.0	75/10/12	1	01	1	0		6.2	5.0	3.4	1.6	0.3	-1.4	-1.8	-2.0			
2503.0	75/10/27	2	12	1	0					2.2	0.4	-1.3	-1.6	-1.8	-2.5		
2503.0	75/10/29	2	04	1	1					1.5	-0.2	-1.2	-0.7				
2503.0	75/10/10	2	01	1	0		12.0	6.9	3.5	2.0	-0.4	-0.5	-0.7				
2503.0	75/10/20	2	05	1	0					3.1	1.4	-0.4	-1.5	-1.1			
2503.0	75/10/20	2	04	1	0					3.1	0.9	0.6	-0.3	-0.6			
2507.0	73/09/24	1	01	1	0		6.7	3.8	2.2	1.0	0.9	0.2	-0.4	-1.1			
2507.0	73/09/19	1	01	1	0		6.0	3.7	2.0	1.0	0.9	0.2	-0.4	-1.1			
2507.0	73/09/11	1	13	1	0					2.2	1.3	-0.3	-1.5	-1.4			
2507.0	73/04/17	2	04	1	0					2.7	1.8	0.5	-0.7	-0.7			
2511.0	73/04/27	1	01	1	0		4.4	3.3	2.5	1.6	1.3	-0.2	-1.0	-0.6	-2.2		
2517.0	73/10/04	1	01	1	0		3.8	2.7	2.0	1.1	0.6	-0.7	-1.5	-1.4		6.1	
2522.0	72/06/17	2	04	1	0					1.1	1.1	0.5	-0.4				
2522.0	72/06/17	2	04	1	0					1.1	1.2	0.7	-0.2				
2526.0	72/08/12	1	13	1	0		4.1	2.6	1.8	1.1	1.3	0.6	-0.7	-0.7			
2526.0	73/07/21	1	01	1	0					1.1	1.2	0.7	-0.7	-0.7			
2526.0	73/08/09	4	14	1	0					-1.3	-2.1	-3.1	-3.8	-3.3			
2526.0	73/06/19	2	04	1	1					-0.9	-1.8	-2.8	-3.4	-3.7	-3.6	5.9	7.6
2532.0	73/11/04	1	01	1	0	3.1	3.5	1.9	0.4	-1.2	-2.1	-3.0	-3.5				
2532.0	73/10/09	2	05	1	0		10.3	8.7	6.9	5.4	4.3	2.0	2.2	1.6	-0.1		
2536.1	77/11/74	2	01	1	0					5.3	5.3	2.7	2.7	1.5	-1.6		
2536.2	77/11/24	2	05	1	0		9.7	8.8	7.1	8.1	6.6	2.7	2.7	1.5	-1.6		
2536.2	78/07/03	2	05	1	0					8.1	0.4	-0.2	-0.8	-0.9			
2537.0	73/07/31	1	01	1	0		9.1	8.6	8.2	0.6	0.4	-0.2	-1.0	-1.4		5.5	
2537.0	73/08/19	1	01	1	0		2.9	2.0	1.4	0.3	0.3	-0.2	-1.0	-1.4			
2537.0	73/08/09	4	14	1	0		2.7	1.8	1.1	-0.6	-0.5	-0.7	-1.7	-1.7			
2541.0	72/08/25	1	13	1	0					1.2	0.6	-0.2	-1.0	-1.2	-2.1		
2545.0	73/04/17	1	01	1	0		3.2	2.2	1.6	1.0	0.9	-0.3	-1.3	-1.1		6.3	
2545.0	73/04/17	1	04	1	0					1.7	1.0	-0.1	-1.3	-1.1			
2546.0	73/09/05	1	01	1	0		3.0	2.3	1.6	0.9	0.7	-0.5	-1.5	-1.1			
2550.0	73/06/17	2	04	1	1					-1.9	-3.2	-5.0	-5.7	-6.0			
2550.0	73/06/18	2	04	1	1					-1.9	-3.2	-5.1	-5.7	-6.0			
2550.0	73/06/19	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/06/20	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/09/20	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/09/22	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/09/23	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/08/29	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/10/01	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/10/02	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/10/06	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/10/23	2	12	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/10/26	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/10/26	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/11/05	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/11/25	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	73/11/29	2	04	1	1					-1.9	-3.1	-5.1	-5.6	-5.9			
2550.0	74/11/08	2	01	1	0		5.6	3.4	1.1	-1.3	-2.7	-4.6	-4.9	-5.4	-6.2		
2550.0	74/11/12	2	02	1	1					-1.2	-2.7	-4.6	-4.9	-5.4	-6.2		

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2650.0	74/12/08	2	03	1	1				1.0	-1.1	-3.2	-5.0	-5.6	-6.0			
2650.0	76/06/25	2	04	1	1	6.4			0.4	-1.9	1.6	0.3	-0.2	0.3			
2679.0	74/12/30	1	01	1	0	6.4		5.5	3.9	2.6	1.6	0.3	-0.1	0.1			
2679.0	75/01/01	1	01	1	0		7.2	5.7	4.1	2.5	1.6	0.3	-0.1	0.1			
2679.0	75/09/10	1	01	1	0		6.5	5.1	3.7	2.0	1.4	0.4	0.1	-0.1			
2686.0	74/12/30	1	01	1	0			6.0	3.1	0.4	-0.9	-2.3	-2.1	-3.0	-3.5		
2686.0	75/01/01	1	01	1	0			5.9	3.1	0.4	-0.9	-2.4	-2.9	-3.1	-3.3		
2686.0	76/10/08	2	05	1	0		8.2	5.6	3.0	0.6	-1.1	-2.5	-3.1	-3.1			
2686.0	76/12/02	2	04	1	1			5.8	4.8	0.2	-0.2	-0.2	-2.4	-3.4			
2686.0	76/12/13	2	03	1	1		8.3	1.2	3.5	1.2	-1.8	-1.9	-2.8	-3.3		-2.5	
2686.0	76/10/15	2	07	2	1			1.2	-0.5		3.6	-0.9	-2.4	-3.3			
2688.0	74/05/03	2	04	1	1	9.9				6.1		-1.1	-2.4	-3.3			
2688.0	74/07/27	1	01	1	0				8.4	6.3							
2688.0	74/10/20	2	03	1	0			9.1	8.4	6.7							
2688.0	74/10/20	2	03	2	0			10.0	9.1	6.9							
2688.0	74/10/25	2	03	2	0			9.1	8.4	6.5							
2688.0	74/10/25	2	03	2	0			9.7	9.0	6.8							
2688.0	74/11/04	2	03	1	0			9.1	8.5	6.5							
2688.0	74/11/04	2	03	2	0			9.7	9.0	6.7							
2688.0	74/11/05	2	00	1	0			9.7	8.8	6.6							
2688.0	74/11/07	2	00	1	0					6.3							
2688.0	74/11/27	2	04	1	1												
2688.0	75/11/04	1	01	1	0		9.5	9.1	8.4	6.7							
2688.0	76/10/09	2	05	1	0												
2688.0	75/12/11	1	01	1	0				7.8	6.4							
2688.0	76/12/30	1	01	1	0	8.8				6.1							
2688.0	78/01/29	1	01	1	0					6.2							
2688.0	78/02/06	1	01	1	0					7.0							
2688.0	78/09/26	3	01	1	0	10.8				2.1							
2690.0	77/05/01	1	01	1	0		3.7	3.0	2.4								
2695.0	76/05/07	1	01	1	0	NF											
2695.0	77/10/19	1	01	1	0	NF											
2695.0	79/08/30	1	01	1	0	6.4	6.2	5.7	4.8	3.7	2.9						
2697.0	72/06/12	1	13	1	0				3.6	1.9	0.5						
2699.0	79/10/11	2	03	1	1		9.1	6.8	4.4								
2699.0	79/10/17	2	07	2	1			1.9	0.4		-0.6						
2700.0	72/09/08	1	13	1	0				1.6	1.3							
2704.0	72/09/21	1	13	1	0				4.0	1.6	0.3						
2704.0	72/12/10	1	13	1	0				3.9	1.9	0.3						
2704.0	73/02/08	1	13	1	0				3.6	1.4	0.0						
2704.0	73/05/27	1	01	1	0			5.0	3.2	0.8	-0.3						
2704.0	73/05/08	2	04	1	0				2.6	0.5	-0.6						
2704.0	73/09/05	1	01	1	0			4.8	2.7	0.4	-0.5						
2704.0	73/09/29	2	04	1	1				2.6	0.5	-0.6						
2704.0	73/12/21	2	04	1	0				3.1	1.1	-0.1						
2704.0	74/11/16	2	03	1	1			4.8	2.8	0.6							
2704.0	74/12/03	2	03	1	1			4.6	2.6	0.5							
2713.0	71/12/06	2	12	1	0												
2713.0	74/11/26	2	03	1	1			7.5	6.4	4.4							
2713.0	74/11/29	2	03	1	1			7.6	6.5	4.4							
2713.0	74/11/29	2	03	1	1												

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OPS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2713.0	75/05/22	2	02	1	1				6.3	4.2	2.7	-1.2	-2.4	-2.8			
2713.0	76/02/04	2	04	1	1				6.6	5.1	3.7	0.8	4.4				
2713.0	77/01/17	2	08	1	0				1.3	0.3	0.5	-2.7	-3.2				
2713.0	78/03/05	1	13	1	0					-2.2	-3.1						
2713.0	79/09/00	4	14	1	0												
2720.0	76/09/07	1	01	1	0	NP	4.4	3.4	3.1	2.6	3.1	> 0.7					
2720.0	72/08/11	1	13	1	0				3.0	2.9	2.8						
2735.0	76/09/07	1	01	1	0	NP	2.9		1.4	1.1	1.2	1.1	0.1			4.8	
2743.0	77/07/25	1	01	1	0				2.0	1.6	1.6	> 0.7					
2743.0	72/09/21	1	13	1	0				1.7	1.2	0.8	-0.5	-1.4				
2771.0	72/10/19	1	13	1	0				2.6	1.6	1.3	0.3	-0.8	-0.6	>-2.1		
2771.0	73/04/27	1	01	1	0		4.7	3.4	2.6	1.1	0.7	-0.6	-1.5	-1.1		6.5	
2771.0	73/10/04	1	01	1	0		3.6	2.6	2.0	1.1	-1.2	-2.0	-2.6	-2.9			
2791.0	73/07/02	1	01	1	0		3.9	2.5	1.2	-0.5	-1.2	-2.0	-2.6	-3.1		6.5	
2791.0	73/05/05	1	01	1	0		3.7	2.2	1.0	-0.5	-1.2	-2.1	-2.6	-3.1			
2791.0	73/09/22	2	04	1	1				0.8	-0.7	-1.5	-2.3	-2.9	-2.8			
2791.0	72/08/23	2	04	1	1				1.1	-0.3	-1.2	-2.1	-2.7	-2.6			
2791.0	75/12/21	2	04	1	0				4.8	-1.5	-1.7	-2.6	-3.1	-1.3			
2799.0	76/06/10	1	01	1	0		9.3	7.0	4.7	2.6	1.5	-0.3	-0.5	-1.6			
2799.0	76/11/29	2	04	1	1				4.5	2.5	1.2	-0.4	-1.1	-1.5			
2799.0	76/11/30	2	04	1	1												
2799.0	75/12/01	2	04	1	1												
2799.0	77/10/24	2	03	1	1				4.8	2.7	1.3	-0.5	-0.7	-1.5	-2.7		
2799.0	77/11/22	2	01	1	0	6.6	9.8	7.0	4.8	2.8	1.3	-0.4	-0.8	-1.6	-3.3		
2799.0	78/10/03	3	01	1	0				4.9	-0.1	0.3	-0.7	-1.1	-0.1			
2799.0	79/00/00	4	14	1	0		4.1	3.0	2.1	1.5	1.1	0.4	0.0				
2799.0	77/10/19	1	01	1	0					-2.3	-2.1	-2.7	-4.0				
2802.0	70/00/00	4	14	1	0				-1.9	-2.3	-2.2	-3.1	-4.3	-4.1	-4.9		
2802.0	72/05/17	2	04	1	1		-1.7		-2.2	-2.3	-2.1	-3.1	-4.3	-3.6	-3.4	0.3	
2802.0	74/11/25	2	03	1	1		-1.4		-1.8	-2.2	-2.2	-2.9	-4.1	-4.0			
2804.0	77/12/30	1	01	1	0				-1.7	-2.2	1.0	0.5	0.0	-0.4			
2805.0	73/03/15	1	01	1	0		2.9	2.3	1.7	1.1	-0.9	-1.6	-1.9	-2.0			
2805.0	76/05/07	1	01	1	0		3.2	1.8	0.8	-0.5	0.2	-1.2	-2.0	-2.0			
2821.0	70/00/00	4	14	1	0		2.8	1.8	1.3	-0.4	-0.1	-0.4	-0.7	-1.0			
2821.0	76/07/18	1	01	1	0		0.9	0.0	-0.2	-0.5	-0.5	-0.7	-0.6	-0.3		2.1	3.2
2821.0	76/10/06	1	01	1	0		0.7	0.1	-0.2	-0.6	-0.3	-0.8	-0.6	-0.3		3.1	-0.4
2825.0	72/07/20	1	13	1	0				2.1	1.2	0.9	-0.1	-1.4	-1.3	-2.1		
2825.0	73/02/03	1	13	1	0				2.1	1.1	0.6	-0.3	-1.1	-1.3			
2825.0	73/04/27	1	01	1	0		3.4	2.4	1.7	0.8	0.4	-0.8	-1.6	-1.3		6.7	
2825.0	72/03/05	1	01	1	0		3.3	2.1	1.4	0.7	0.5	-0.5	-1.5	-1.6			
2851.0	77/04/08	1	01	1	0		3.3	2.5	2.0	1.1	0.6	-0.6	-1.5	-1.6			
2857.0	77/02/15	1	01	1	0		3.7	2.8	2.5	2.1	2.0	1.3	0.8	0.5	-0.4	6.0	7.5
2865.0	77/04/08	1	01	1	0		3.9	2.9	2.4	1.6	1.1	-0.4	-1.0	-1.5			
2881.1	77/05/08	1	01	1	0		6.1	5.3	4.8	1.8	0.8	-0.1	-0.4	-0.6			

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
2881.1	79/10/11	2	03	1	1		8.3	6.2	4.2	2.2		1.2					
2881.2	79/10/11	2	03	1	1		9.4	7.6	5.9	4.1		3.2					
2881.3	76/07/18	1	01	1	0			7.8	5.8	2.9	0.7	-0.8	-1.3	-2.8	-4.3		
2884.0	76/11/14	1	01	1	0	7.4				2.9	0.8	-0.9	-1.1	-2.7	-4.6		
2884.0	76/12/11	1	01	1	0				5.8	2.9	0.8	-1.0	-1.2	-2.8	-4.5		
2884.0	77/09/10	1	01	1	0	7.7			5.7	3.0	1.3	-0.3	-0.9	-2.4	-4.4		
2885.0	74/12/07	2	03	1	1			11.0	6.3	2.6							
2885.0	74/12/10	2	03	1	1			10.8	6.3	2.4							
2885.0	74/12/10	2	04	1	1					2.4	0.7	-0.9	-0.9	-1.7			
2885.0	76/10/06	2	05	1	0			9.0	4.6	1.2							
2885.0	76/11/14	1	01	1	0				4.5	1.0	-0.6	-2.0	-1.5	-2.9	-4.1		
2885.0	76/11/30	2	04	1	1				4.4	1.0	-0.6	-2.0	-2.2	-2.9			
2885.0	76/12/11	1	01	1	0							-0.5	-1.6	-2.7	-4.3		
2885.0	77/09/10	1	01	1	0	5.7		7.9	4.4	0.9	-0.5	-1.8	-1.6	-2.7	-4.3		
2887.0	77/07/25	1	01	1	0		3.6		1.9	1.5	1.2	0.6	0.3	0.2			
2886.0	70/03/00	4	14	1	0				3.7	1.0	-0.4	-2.2	-2.4	-2.6	-2.7		
2881.0	75/10/29	1	01	1	0			6.2	3.8	1.0	-0.4	-2.2	-2.4	-2.6	-2.7		
2901.0	75/11/04	1	01	1	0			6.4	4.2	1.8	-0.3	-2.0	-2.3	-2.6	-3.1		
2901.0	76/10/08	2	05	1	0		9.3	6.9	4.2	1.0	-0.3	-2.0	-2.3	-2.6	-3.1		
2913.0	76/07/18	1	01	1	0		0.9	0.2	0.0	-0.2	0.0	-0.1	-0.4			2.0	2.9
2919.0	72/07/30	1	13	1	0		3.3	2.8	2.3	1.5	0.9	-0.9	-1.7	-1.5		4.2	0.8
2925.0	73/09/00	1	01	1	0		0.7	0.1	-0.2	-0.6	-0.3	-0.8	-0.6			1.9	3.1
2925.0	76/10/06	1	01	1	0				1.8	1.4	1.4		-0.3				
2932.0	72/08/26	1	13	1	0				1.7	1.4	1.3	> 0.3	-0.2				
2932.0	72/10/12	1	13	1	0			3.6	2.9	1.9	1.1	0.5	0.2	-0.2			
2935.0	77/10/19	1	01	1	0		5.9			NF							
2958.0	76/10/09	2	05	1	0												
2958.0	77/11/22	2	01	1	0												
2963.0	76/10/05	2	06	1	0												
2963.0	77/11/22	2	06	1	0												
2963.0	73/10/09	1	01	1	0		4.1	3.3	2.8	2.1	1.6	-0.3	-2.0	-1.8	-3.0		
2963.0	73/10/14	1	01	1	0		4.1	3.3	2.8	2.0	1.6	-0.3	-2.0	-1.8	-3.0		
2965.0	73/10/26	2	04	1	0												
2968.0	73/12/21	2	04	1	1												
2968.0	74/07/27	1	01	1	0	4.7	3.7	2.9	2.5	1.8	1.3	-0.4	-1.8	-1.8		5.9	
2968.0	74/10/20	2	03	1	1			3.1	2.6	1.8							
2968.0	74/11/08	2	01	1	0		4.1	3.5	2.8	2.0	1.5	-0.3	-1.8	-1.5	-2.8		
2972.0	77/10/19	1	01	1	0		4.4	3.3	2.6	2.0	1.5	0.4	-1.0	-1.1			
2985.0	75/01/01	1	01	1	0	5.1	6.1	4.2	2.7	1.1	0.2	-0.9	-1.2	-1.0	-2.7		
2981.0	76/06/20	2	03	1	1			4.6	4.0	3.5							
2981.0	76/06/23	2	03	1	1			4.4	3.8	3.3							
2981.0	75/10/29	1	01	1	0		6.2	4.6	3.3	1.8	1.1	-1.3	-2.3	-2.1	-3.2		
2985.0	75/11/04	1	01	1	0		5.9	4.7	3.3	2.0	0.8	-0.9	-2.1	-2.0	-3.3		
3004.0	77/11/24	2	06	1	0												
3011.0	75/11/04	1	01	1	0			6.6	4.3	1.9	0.7	-0.8	-1.4	-1.5			
3016.0	76/11/16	1	01	1	0		3.4	2.5	2.1	1.7	1.6	0.7	-0.7	-0.6			
3017.0	77/06/00	4	14	1	0					-2.2	-2.2	-2.2	-2.3				
3032.0	76/12/11	1	01	1	0												
3032.0	77/09/25	2	06	1	1												

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
3022.0	77/10/03	1	01	1	0	6.4	5.0	4.6	3.9	3.1	1.4	0.2	0.1			
3022.0	77/10/19	1	01	1	0	5.8	4.8	4.0	3.2	2.4	1.0	0.1	-0.2			
3022.0	77/10/24	2	03	1	1	5.8	4.5	3.8						-1.5		
3022.0	78/11/16	1	01	1	0				3.5	2.9	1.1	-0.1	0.3			
3022.0	78/12/09	4	14	1	0				-0.3	-0.6	-0.9	-1.9				
3044.0	78/06/09	4	14	1	0				0.5	0.5	0.1	-0.4	-0.3			
3044.0	78/12/22	1	01	1	0	2.4	1.7	1.1	0.7	0.7	0.4	-0.4				
3046.0	78/11/16	1	01	1	0	3.2	2.4	2.2	2.2	2.3	2.2		-0.3			
3046.0	73/06/17	2	04	1	0			8.0	3.9	1.6	-0.4	-0.8	-2.0			
3048.0	76/12/11	1	01	1	0				3.6	1.3	-1.5	-0.3	-2.3	-4.6		
3048.1	76/12/11	1	01	1	1			8.0	7.7							
3048.1	78/06/26	2	03	1	1			8.5								
3048.2	78/10/24	2	03	1	1	12.9		1.7	1.5	1.7	1.0		-0.2			
3051.0	77/12/20	1	01	1	0	2.7	1.9	5.2	5.1							
3053.0	76/09/19	1	01	1	0				6.6	5.6	1.6	0.7	0.0	NF		
3053.0	76/12/11	1	01	1	0				6.4	5.2	1.4	0.5	-0.1			
3053.1	76/12/01	2	04	1	1			7.7	6.2	1.3		0.6				
3053.1	76/12/03	2	04	1	1							0.3				
3053.1	76/12/04	2	04	1	1				7.5							
3053.1	77/06/26	2	05	1	0	10.7	9.7	8.4								
3053.1	77/06/27	2	05	1	0	9.3	9.4	8.4	6.5							
3053.1	77/12/26	2	04	1	1			8.1	5.9	4.9	1.2	0.6	-0.1			
3053.2	78/01/29	1	01	1	0	4.4	3.2	2.7	2.3	2.5	2.0	-1.5	-1.4			
3055.0	77/09/10	1	01	1	0			2.0	1.4				NF			
3057.0	76/11/29	2	04	1	0	3.9										
3057.0	77/10/20	1	01	1	0	NF										
3057.0	77/11/22	1	01	1	0	NF										
3061.0	72/07/30	1	13	1	0			3.2	2.3	1.7						
3061.0	76/09/13	1	01	1	0	4.7	3.8	3.1	2.3	2.2	1.5	-0.3	-0.2			
3068.0	76/12/07	1	01	1	0				3.3	0.5	-2.9	-3.8	-4.0	-4.8		
3068.0	77/02/28	1	01	1	0			> 7.8	3.5	0.7	-3.2	-3.8	-4.3	-5.1		
3068.0	77/09/10	1	01	1	0				4.1	1.3	-2.6	-3.3	-3.6	-5.1		
3068.0	77/16/23	2	03	1	1	>14.7	10.2									
3068.0	77/10/25	2	04	2	1			4.1	1.0	-2.5	-3.2	-3.7	-4.7			
3068.0	78/01/29	1	01	1	0			5.1	1.7	-2.3	-2.9	-3.2				
3068.0	78/10/17	2	07	2	1			-0.2	-2.3	-2.2	-3.0	-1.7	-1.6		-3.5	
3075.0	77/09/10	1	01	1	0	2.2	1.4	0.6	-0.4	-0.5	-1.0	0.4				
3079.0	76/08/10	1	01	1	0											
3079.0	76/12/11	1	01	1	0											
3080.0	76/09/10	1	01	1	0			6.8	2.9	1.3	-1.4	-2.4	-2.6			
3080.0	76/09/10	1	01	1	0			7.2	3.3	1.6	-0.1	-1.6	-1.8			
3089.0	76/10/29	1	01	1	0	7.5	8.0	6.0	3.6	1.0	-1.5	-2.1	-2.2	-2.3		
3089.0	76/10/13	2	03	1	1	11.2	8.3	5.5	2.1	0.2						
3089.0	79/10/17	2	07	2	1			-0.4		-1.9	-1.9	-2.4			-2.7	
3116.0	72/08/04	1	13	1	0			2.1	-0.3	-1.6	-3.2	-3.8	-4.0		-3.2	
3116.0	72/12/10	1	13	1	0			3.1	0.7	-0.9	-3.0	-3.5	-3.7	-3.9	-3.3	
3116.0	77/02/08	1	13	1	0			3.2	0.9	-0.0	-2.9	-3.3	-3.8	-3.9		
3116.0	73/04/17	1	01	1	0	> 7.4	5.4	3.1	0.6	-0.7	-2.5	-3.4	-3.6	-3.1		
3116.0	73/06/17	2	04	1	1			2.4	-0.0	-1.4	-3.1	-3.7	-3.8			

# AFGL OBSERVATION SUMMARY

AFGL#	DATE	CBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
3116.0	73/06/18	2	04	1	1				2.3	0.0	-1.4	-3.2	-3.8	-3.0			
3116.0	73/08/05	1	01	1	0		6.2	3.0	1.8	-0.7	-1.9	-3.6	-4.0	-4.3			
3116.0	73/09/22	2	04	1	1				1.6	-0.7	-2.0	-3.6	-4.2	-4.2			> 7.3
3116.0	73/10/24	2	10	1	1												
3116.0	73/10/25	2	10	1	1												
3116.0	73/11/05	2	04	1	1				1.6	-0.6	-2.0	-3.5	-4.1	-4.1			
3116.0	73/11/05	2	11	1	1												
3116.0	73/12/18	2	04	1	0				1.6	-0.7	-2.1	-3.6	-4.1	-4.2			
3116.0	74/10/20	2	03	1	1			5.5	3.2	0.6							
3116.0	74/11/07	2	01	1	0		7.7	5.6	3.3	0.7	-0.7	-2.5	-3.0	-3.3	-3.9		
3116.0	74/12/03	2	03	1	1			5.6	3.2	0.8							
3116.0	78/01/29	1	01	1	0	5.0		5.6	3.4	0.8	-1.0	-3.0	-3.3	-3.5	-4.2		
3116.0	79/10/12	2	03	1	1		9.0	6.2	3.7	0.8							
3116.0	79/10/17	2	07	2	1			0.9	-1.3		-2.6	-2.8	-3.3	-3.3			-3.5
3136.0	73/09/20	2	04	1	1				-0.2	-1.3	-1.8	-2.8	-3.4	-3.3			
3136.0	73/09/25	2	04	1	1												
3138.0	76/10/06	1	01	1	0		2.4	1.5	1.0	0.5	0.1	-1.3	-2.9	-2.9	-4.2	4.3	6.1
3143.0	73/07/16	1	01	1	0		3.2	2.3	1.6	0.8	0.6	-0.6	-1.7	-1.5			
3143.0	73/08/19	1	01	1	0		3.2	2.4	1.5	0.9	0.5	-0.8	-1.6	-1.8			
3147.0	70/06/00	4	14	1	0					-0.9	-0.8	-1.0	-1.3				
3154.0	75/10/06	1	01	1	0		6.9	6.0	5.6	5.3			1.1	0.6			
3154.0	75/12/11	1	01	1	0												
3155.0	72/07/30	1	13	1	0				1.3	0.3	0.1	-1.9	-2.9	-2.2			
3165.0	73/02/08	1	13	1	0				2.4	1.2	0.6	-0.8	-1.6	-1.6	-2.3		
3165.0	73/04/27	1	01	1	0		4.3	3.0	2.1	0.8	0.4	-1.0	-2.1	-2.0	-2.8		
3165.0	73/09/05	1	01	1	0		3.0	2.0	1.1	0.3	-0.3	-1.9	-3.0	-2.5			5.6
3168.0	77/10/19	1	01	1	0		3.8	2.8	2.2	1.9	1.8	0.6	-0.5	-0.5			
3170.0	72/10/18	1	13	1	0				2.6	2.3	1.9	> 0.7					
3188.0	70/08/00	4	14	1	0				-2.2	-2.0	-2.4	-3.1	-4.1	-4.6			
3188.0	73/09/20	2	04	1	1					-2.9	-3.1	-3.9	-4.7				
3188.0	73/10/14	1	01	1	0				-2.2	-2.9	-3.2	-4.2	-5.0	-5.2			1.6
3196.0	70/00/00	4	14	1	0		-0.7	-1.7	-2.2	-2.7	-3.2	-4.2	-5.0	-5.0			
4017.0	77/02/15	1	01	1	0	NF				0.5	0.5	0.2	-0.0				
4018.0	78/01/09	1	01	1	0	NF											
4029.0	76/11/29	2	04	1	0												
4029.1	77/10/25	2	03	1	1			9.4	6.9	4.8							
4029.1	77/10/26	2	04	1	0												
4029.1	77/11/22	2	01	1	0			9.7	6.9	4.8	6.6	2.2	2.3	1.1	-1.1		
4029.1	77/11/24	2	01	1	0				7.2	5.1	3.8	2.4	2.5	1.4	-0.9		
4029.1	78/11/09	3	01	1	0				7.2	5.1	3.8	2.7	2.7	1.2	-1.4		
4029.1	78/12/10	2	03	1	0		11.4	9.4	6.3								
4029.1	78/12/10	2	03	1	0					5.1		3.8	4.9				
4029.1	78/12/12	2	03	1	0		11.4	9.4	6.8								
4029.2	77/10/24	2	03	1	1		10.1		9.0								
4029.2	77/10/25	2	03	1	1				9.1	7.0	6.6	2.4	2.1	1.8			
4029.2	77/10/26	2	04	1	0												
4029.2	78/12/10	2	03	1	1		11.1	10.0	> 8.6								
4029.2	78/12/10	2	03	2	0				9.5								
4029.2	78/12/12	2	03	1	1		11.0	10.0	8.9	7.4	6.0	6.5					



# AFGL OBSERVATION SUMMARY

AFGL#	DATE	ORS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
4044.0	73/01/09	1	13	1	0				2.4	1.9	1.8	1.3	1.5				
4044.0	78/10/19	3	01	1	0	4.2	3.7	2.8	2.2	1.9	1.9	1.3	1.0	0.8		6.1	
4060.0	78/10/09	3	01	1	0		4.2	3.2	2.7	2.1	2.1	1.4	1.2	1.4	0.5	6.3	9.3
4082.0	77/06/07	1	01	1	0		3.4	3.1	2.5	2.5		1.7					
4085.0	73/01/08	1	01	1	0				2.5	2.0	1.9	1.2	0.1				
4088.0	77/11/04	1	01	1	0		4.0	3.1	3.6	3.8	2.9	2.8	1.7	1.8		5.2	6.1
4105.0	71/00/00	5	13	1	0				0.9	0.4	0.5	-0.5	-2.5	-2.3	-3.3		
4114.0	71/03/00	5	13	1	0				1.2	-1.7	-3.4	-6.3	-8.1	-8.5	-9.5		
4114.0	72/02/00	5	13	1	0				1.3	-1.7	-3.4	-6.3	-8.1	-8.3	-9.4		-7.6
4145.0	70/04/07	2	05	1	0				NF								
4145.0	79/04/18	1	01	1	0	NF											
4153.0	78/04/15	1	01	1	0					1.5	1.1	0.8	0.6				
4157.0	70/00/00	4	14	1	0	NF											
4166.0	77/02/05	1	01	1	0												
4177.0	72/02/26	5	13	1	0				1.6	1.1	0.6	-1.2	-3.1	-3.1	-4.1		
4177.0	73/05/00	6	01	1	0		2.4	1.8	1.5	1.1	0.5	-1.6	-3.4	-3.1	-4.1		
4192.0	79/05/25	1	01	1	0	NF											
4217.0	79/05/16	1	01	1	0	NF											
4217.0	79/05/28	1	01	1	0	NF											
4219.0	72/04/15	2	15	1	0										-0.4		
4219.0	72/05/08	2	04	1	0				4.5	2.2		-0.5	-0.6				
4219.0	72/05/12	2	04	1	0					2.2	1.1	-0.2	-0.2				
4219.0	72/06/17	2	04	1	0					2.4	1.3	-0.2	-0.5				
4219.0	73/05/17	2	04	1	0				4.3	2.9	1.7	0.1	-0.2	-0.5			
4219.0	74/02/02	2	04	1	0				4.0	2.3	1.3	0.1	-0.3	-0.6			
4219.0	74/02/24	2	04	1	0				3.9	2.1	1.1	-0.2	-0.4	-0.7			
4219.0	74/05/02	2	04	1	0				3.9	2.1	1.0	-0.2	-0.5	-0.6			
4219.0	74/06/01	2	04	1	0				3.9	2.1	0.9	-0.3	-0.7	-0.6			
4219.0	74/07/26	1	01	1	0				3.6	1.8	0.9	-0.9	-0.5	-0.8	5.5		
4219.0	75/01/01	1	01	1	0	5.2	5.0	4.5	4.3	2.6	1.6	-0.3	-0.4	-0.7			
4219.0	75/01/08	1	01	1	0		5.2	4.8	4.7	2.9	1.6	0.1	-0.2	-0.7			
4219.0	76/01/07	1	01	1	0		6.3	5.8	4.7	2.9	1.6	0.1	-0.2	-0.7			
4219.0	76/05/13	2	03	1	1		6.3	4.7	4.0	2.5	1.6	0.1	-0.2	-0.7			
4219.0	76/05/06	1	01	1	0					FF				2.8			
4219.0	77/06/25	1	01	1	0		7.4	7.0	5.2	2.7	1.6	-0.0	-0.4	-0.4			
4219.0	77/06/28	1	01	1	0	7.3		6.9	5.1	2.6	1.4	0.0	-0.3	-0.1			
4219.0	77/07/01	1	01	1	0				5.6	3.1	2.1	0.7					
4219.0	77/08/12	1	01	1	0			7.3	5.0	2.6	1.2	-0.4	-0.6	-0.5			
4219.0	77/08/24	1	01	1	0				5.1	2.6	1.4	-0.2	-0.5	-0.3			
4219.0	78/01/29	1	01	1	0	5.8	6.1	5.3	4.5	2.7	1.5	-0.0	-0.2	0.0	-1.4	6.6	6.5
4219.0	78/01/30	1	01	1	0		6.0	5.2	4.4	2.6	1.4	-0.1	-0.3	0.0	-1.5	6.7	6.1
4221.0	78/04/15	1	01	1	0	NF											
4221.0	78/07/03	2	05	1	0				NF								
4222.0	79/04/07	2	05	1	0		>14.5	10.5	6.4	3.7			4.2				
4222.0	79/05/06	2	03	1	1			10.4	6.2	3.4							
4224.0	79/05/07	2	03	1	1				7.7	6.0							
4229.0	79/05/16	1	01	1	0	NF											
4234.0	78/08/21	1	01	1	0	NF											
4235.0	78/07/04	2	05	2	0		7.6	5.5	4.5	3.8							
4241.0	72/09/14	1	13	1	0				2.8	1.9	1.5	> 0.6	-0.7				

# AFGL OBSERVATION SUMMARY

ACT#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
4208.0	78/03/20	1	01	1	0		2.7	1.9	1.8	1.7	2.1	1.2					
4251.0	76/06/22	2	03	1	1				7.7	5.8							
4259.0	77/04/09	1	01	1	0					NF							
4259.0	77/06/27	2	05	1	0					NF							
4259.0	77/08/19	1	01	1	0					NF							
4259.0	78/10/08	2	07	1	0	NF											
4259.0	79/01/10	1	01	1	0	NF											
4261.0	77/08/08	1	01	1	0		3.3	2.4	1.7	1.6	1.9		-0.2				
4263.0	76/11/29	2	04	1	0					NF			NF				
4263.0	77/08/19	1	01	1	0								NF				
4263.0	78/10/08	2	07	1	0								NF				
4264.0	76/11/29	2	04	1	0		4.6		3.1	2.7		1.0	-0.7	-0.3			
4286.0	77/07/25	1	01	1	0								-0.1	-0.9			
4295.0	72/08/05	1	13	1	0						1.8						
4295.0	78/10/19	3	01	1	0	4.2	4.0	3.1	2.3	1.2	0.6	-1.0	-2.0	-2.0	-2.7	7.0	
4300.0	72/08/12	1	13	1	0				2.7	2.3	> 2.0		> 0.5				
4305.0	77/10/19	1	01	1	0				6.8	4.3							
4335.0	76/07/04	2	05	1	0		7.6	5.5	4.5	3.8							

[illegible]

# AFGL SUPPLEMENT OBSERVATIONS

AFGL#	DATE	OBS	SYS	A	S	00	01	02	03	04	05	06	07	08	09	10	11
S4990.0	70/00/00	4	14	1	0					-0.7	-1.2	-2.2	-3.1	-0.9			
S5000.0	73/05/23	6	01	1	0		4.4	3.3	2.7	1.9	1.6	0.7	1.0	-0.5			
S5010.0	74/04/13	2	04	1	0				3.2	2.3	1.7	0.5	-0.4	-0.3			
S5080.0	74/05/01	2	04	1	0				3.0	2.0	1.5	0.5	-0.6	-0.3			
S5090.0	74/05/23	6	01	1	0		4.4	3.3	2.7	1.9	1.6	0.7	-1.0	-0.9			
S5120.0	72/05/09	1	13	1	0				3.1	2.6						1.1	
S5135.0	72/05/09	1	13	1	0				2.6	2.2						1.2	
S5241.0	72/05/04	1	13	1	0				3.0	2.3							
S5272.0	72/08/26	1	13	1	0				3.0	2.5	2.6		>-0.6				
S5284.0	72/08/12	1	13	1	0				3.2	3.0	2.8		0.0				
S5295.0	72/08/12	1	13	1	0				2.4	1.9	1.9		> 0.8				
S5294.0	72/09/08	1	13	1	0				3.2	2.8	2.9		> 0.8				
S5310.0	73/07/31	1	01	1	0				3.3	2.8	> 3.0						
S5311.0	72/08/12	1	13	1	0				2.4	1.9	2.0		> 0.5				
S5321.0	72/05/09	1	13	1	0				3.0	2.2							0.0
S5331.0	72/10/23	1	13	1	0				3.0	2.7	3.2	> 1.6	0.4				
S5339.0	72/08/29	1	13	1	0				3.3	3.0	> 3.0		>-0.3				
S5343.0	72/08/11	1	13	1	0				3.4	2.8	2.7		> 0.3				
S5347.0	72/09/08	1	13	1	0				2.7	2.4	> 2.8		> 0.9				
S5352.0	72/09/08	1	13	1	0				2.6	1.8	1.5	0.7	-0.6				
S5357.0	72/09/14	1	13	1	0				2.5	2.2	2.7		> 0.4				
S5370.0	72/08/11	1	13	1	0				3.4	2.6	> 3.0		> 0.5				
S5372.0	72/09/08	1	13	1	0				3.1	2.8	3.0						
S5377.0	72/06/25	1	13	1	0				2.6	1.9			0.5				
S5386.0	72/06/25	1	13	1	0				2.8	2.3			> 0.6				
S5407.0	72/06/25	1	13	1	0				3.1	2.4			0.2				
S5416.0	72/09/14	1	13	1	0				2.3	1.8	2.4		> 0.3				
S5443.0	72/08/29	1	13	1	0				2.4	2.0	1.9		> 0.6				
S5450.0	72/08/05	1	13	1	0				2.8	2.4	2.8		> 0.8				
S5458.0	72/09/14	1	13	1	0				2.5	2.1	2.3		> 0.9				
S5476.0	72/09/08	1	13	1	0				2.5	1.6	1.4		-0.1				
S5486.0	72/09/21	1	13	1	0				2.6	2.5	2.7		> 0.3				
S5499.0	72/06/26	1	13	1	0				3.0	2.3	> 2.0		>-0.5				
S5509.0	72/10/23	1	13	1	0				2.8	2.4	2.7		>-0.5				
S5533.0	72/08/05	1	13	1	0				3.0	2.6	2.6		>-0.1				
S5543.0	72/08/12	1	13	1	0				2.6	2.2	2.6		> 0.7				
S5549.0	72/08/12	1	13	1	0				2.5	1.8	1.7		0.6				
S5563.0	72/08/29	1	13	1	0				2.6	2.2	2.3		0.6				
S5606.0	72/10/18	1	13	1	0				2.0	1.0	2.0		0.5				
S5615.0	72/05/09	1	13	1	0				2.4	1.0			-1.7				-2.2
S5615.0	72/09/14	1	13	1	0				2.8	1.3	0.7		-1.1				
S5615.0	73/04/17	1	01	1	0		6.5	5.2	3.7	2.0	1.4		-0.4				
S5615.0	73/06/08	2	04	1	0				3.6	1.9	1.4		-1.4				
S5615.0	73/08/05	1	01	1	0				2.7	1.3	0.7		-1.4				
S5615.0	73/09/28	2	12	1	0				2.4	1.0	0.2		-1.7				
S5615.0	73/10/26	2	04	1	0				2.4	1.1	0.3		-1.4				
S5615.0	74/11/08	2	01	1	0				3.3	1.9	1.2		-2.3				
S5628.0	72/09/08	1	13	1	0		6.3	4.7	1.9	1.3	1.0		-1.4				
S5671.0	72/08/12	1	13	1	0				2.6	2.2	1.9	> 0.4	0.1				
S5691.0	70/00/00	4	14	1	0					1.9	1.7	1.5	1.1				

# ATGL SUPPLEMENT OBSERVATIONS

ATGL	DATE	CRS	SYD	A	S	00	01	02	03	04	05	06	07	08	09	10	11
55703.0	72/09/11	1	13	1	0				3.0	2.9	3.0		> 0.6				
55704.0	72/09/12	1	13	1	0				2.6	2.3	> 2.8		> 1.3				

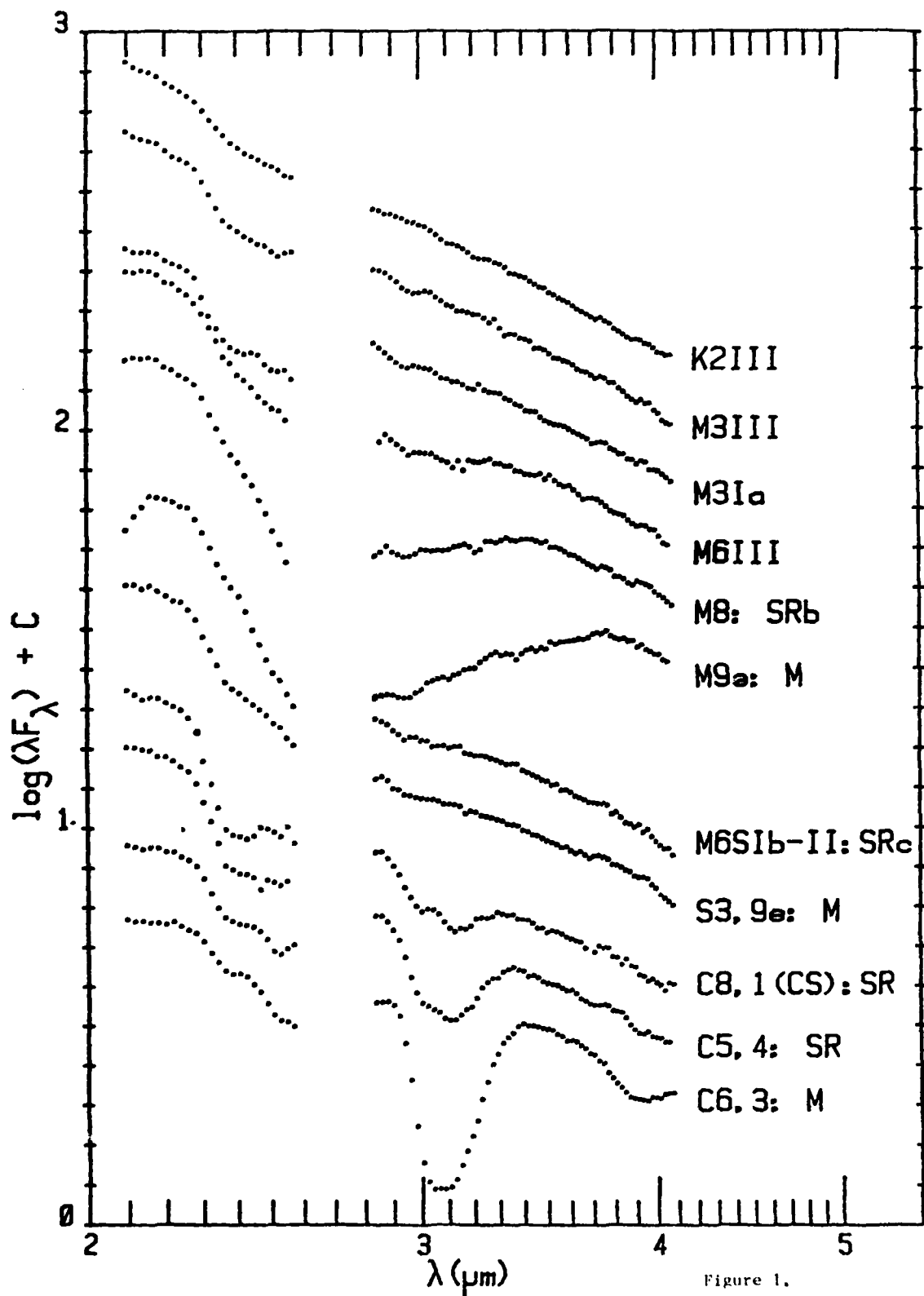


Figure 1.

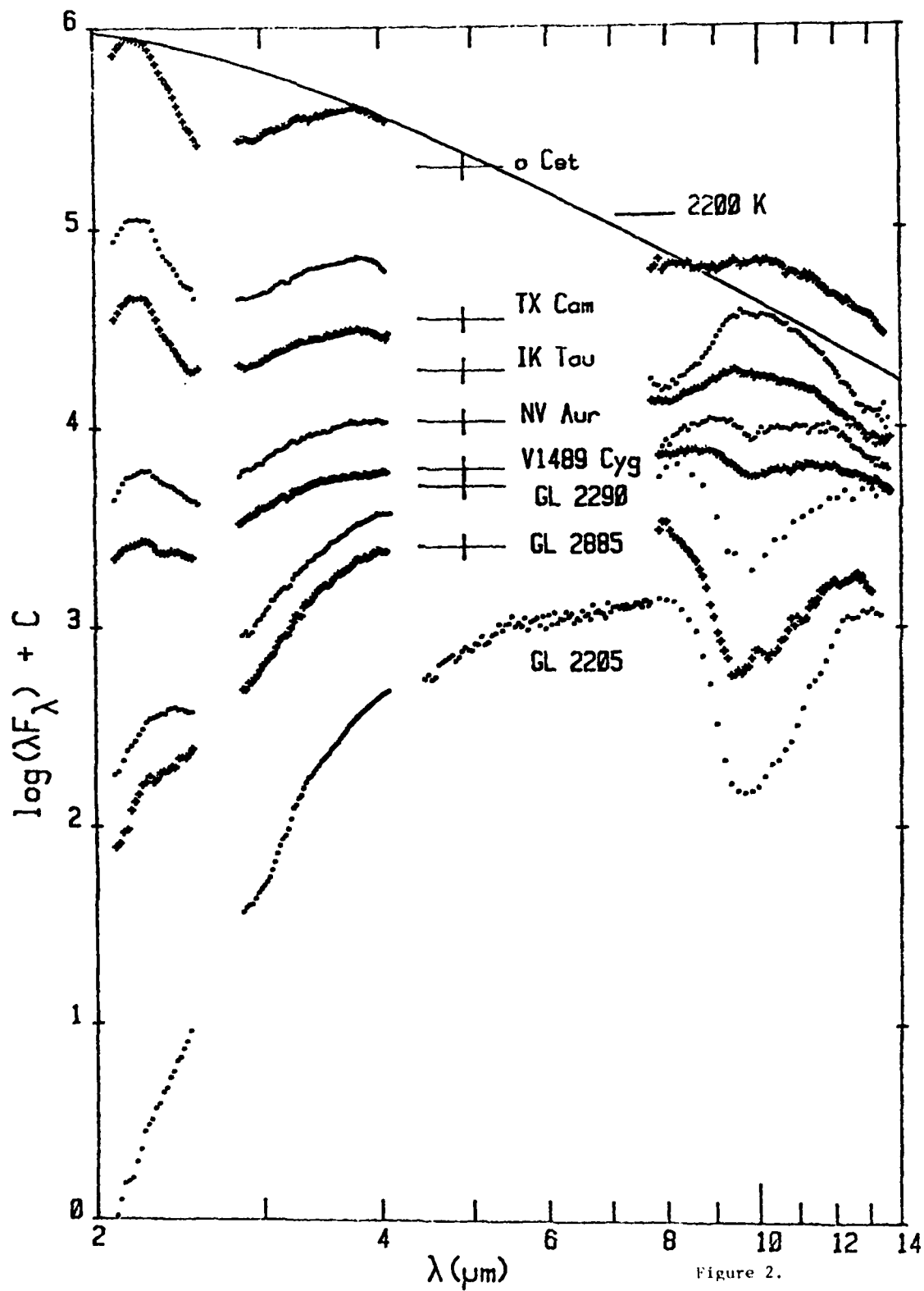


Figure 2.

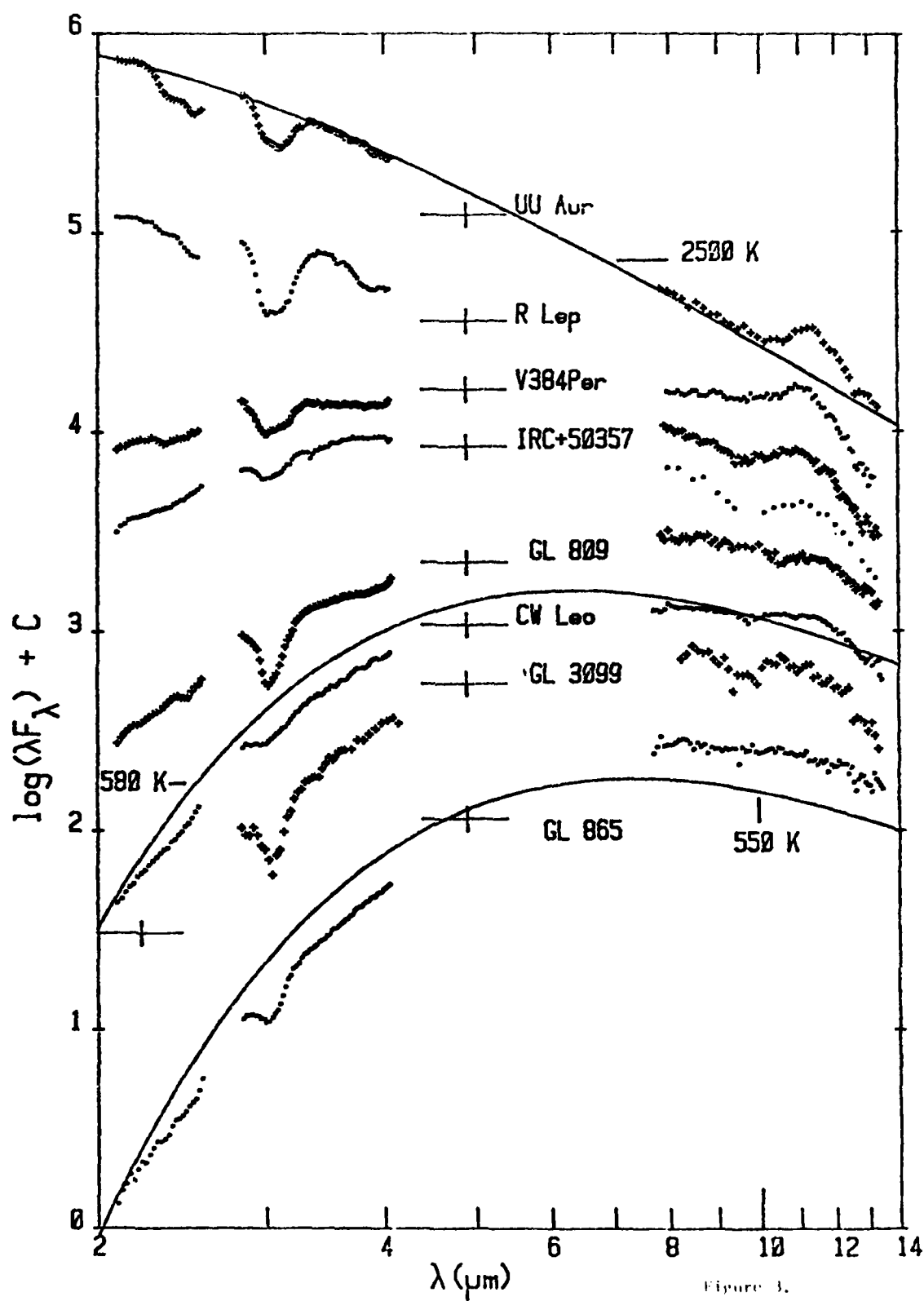


Figure 3.



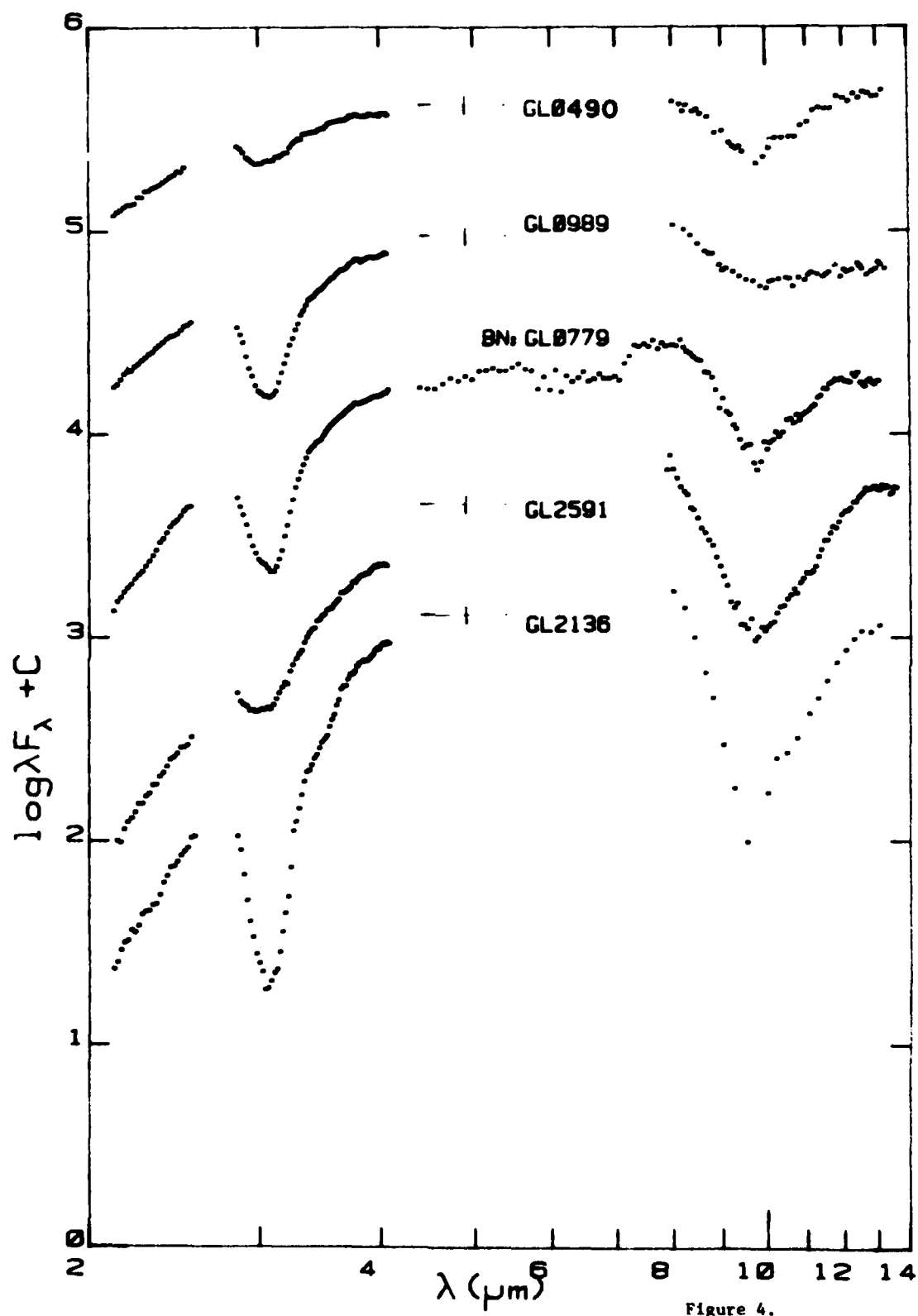
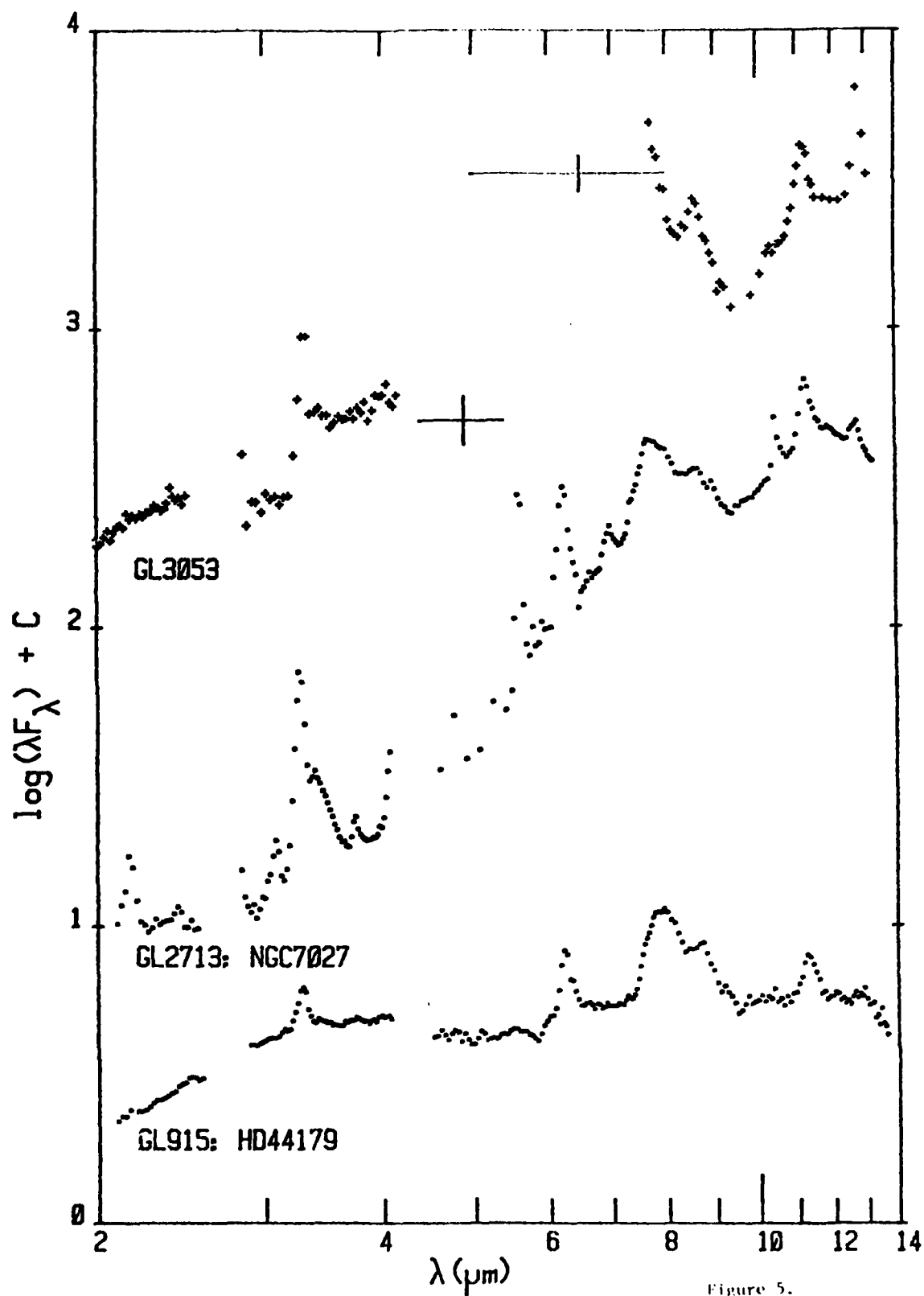


Figure 4.



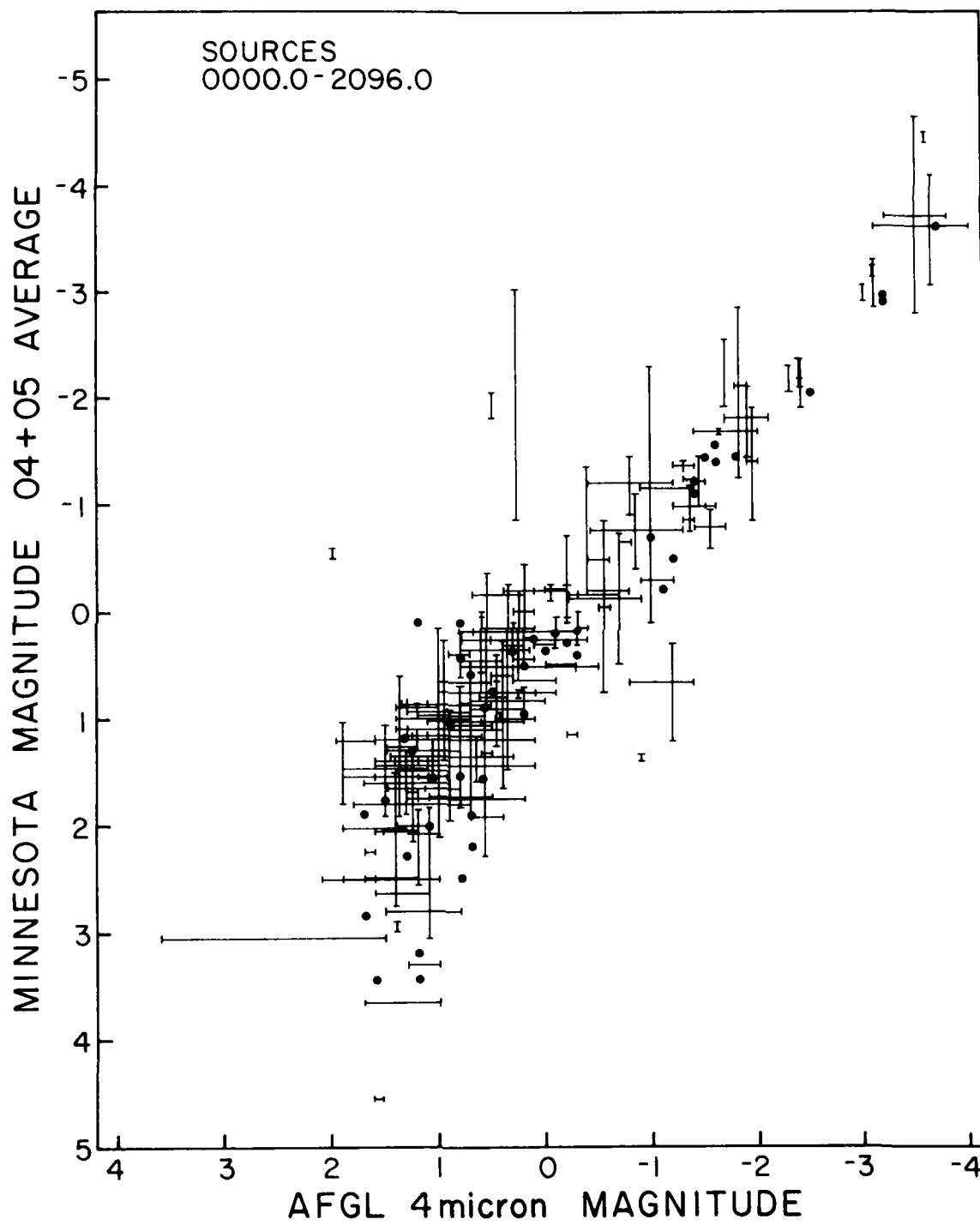


Figure 6

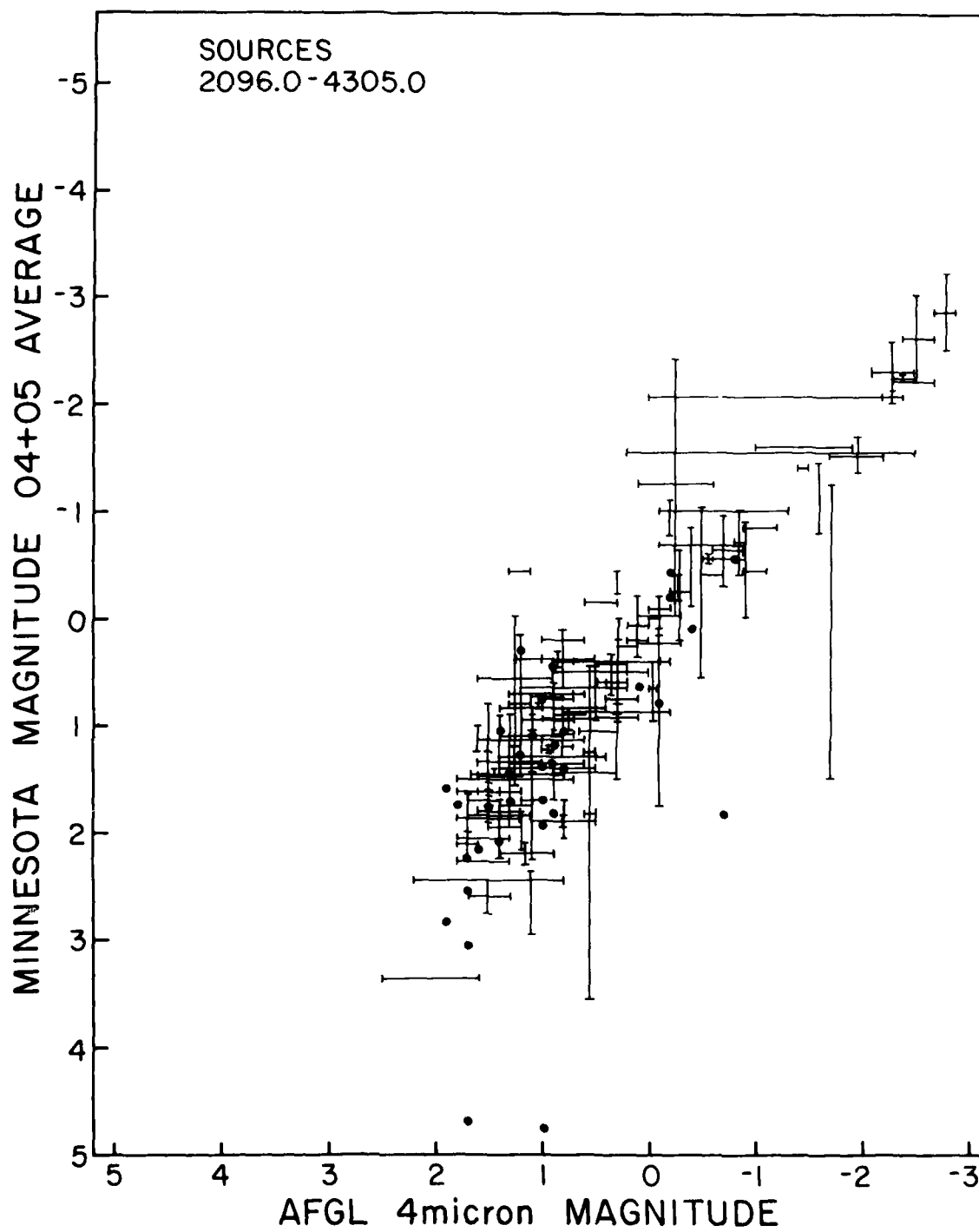


Figure 7

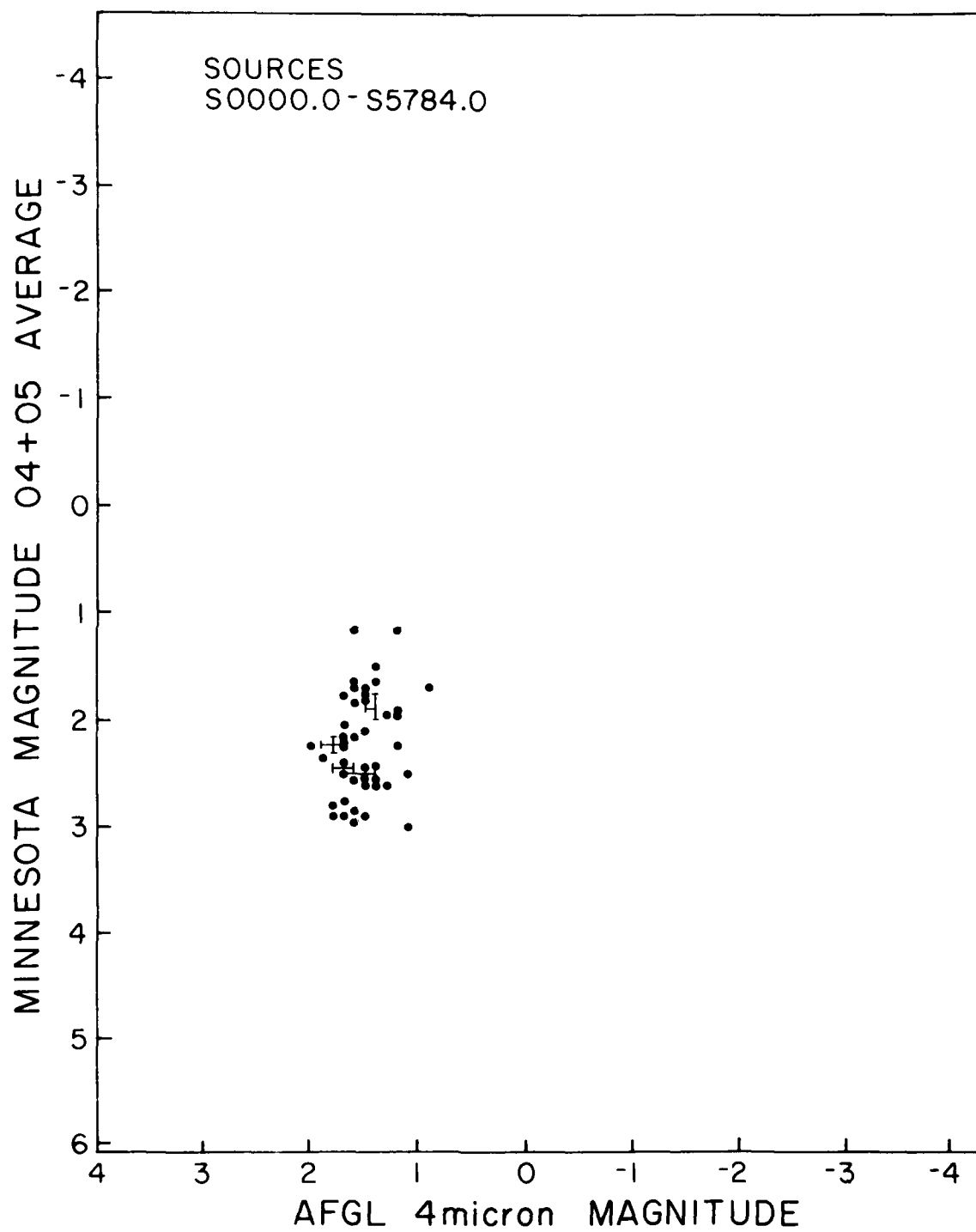


Figure 3

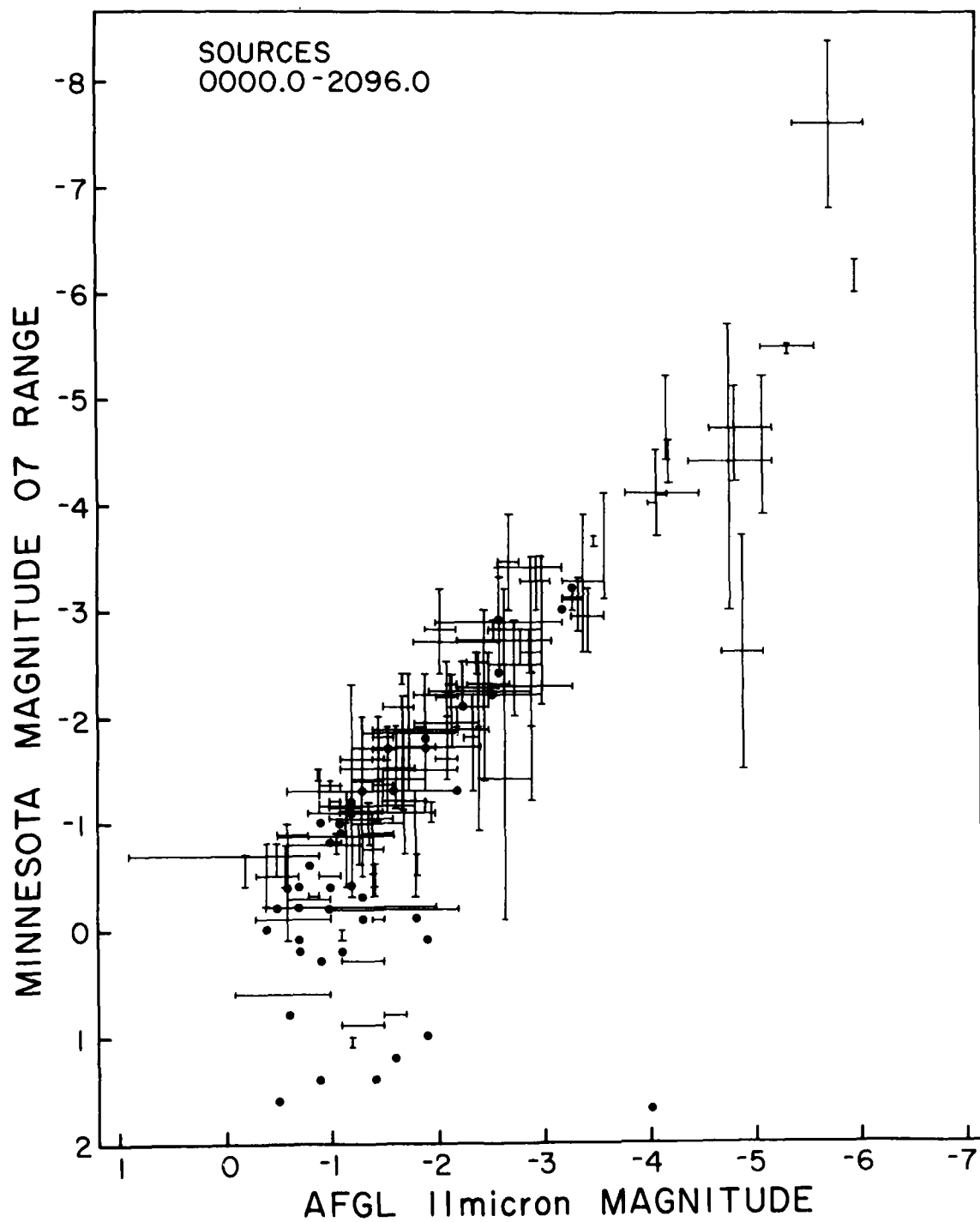


Figure 9

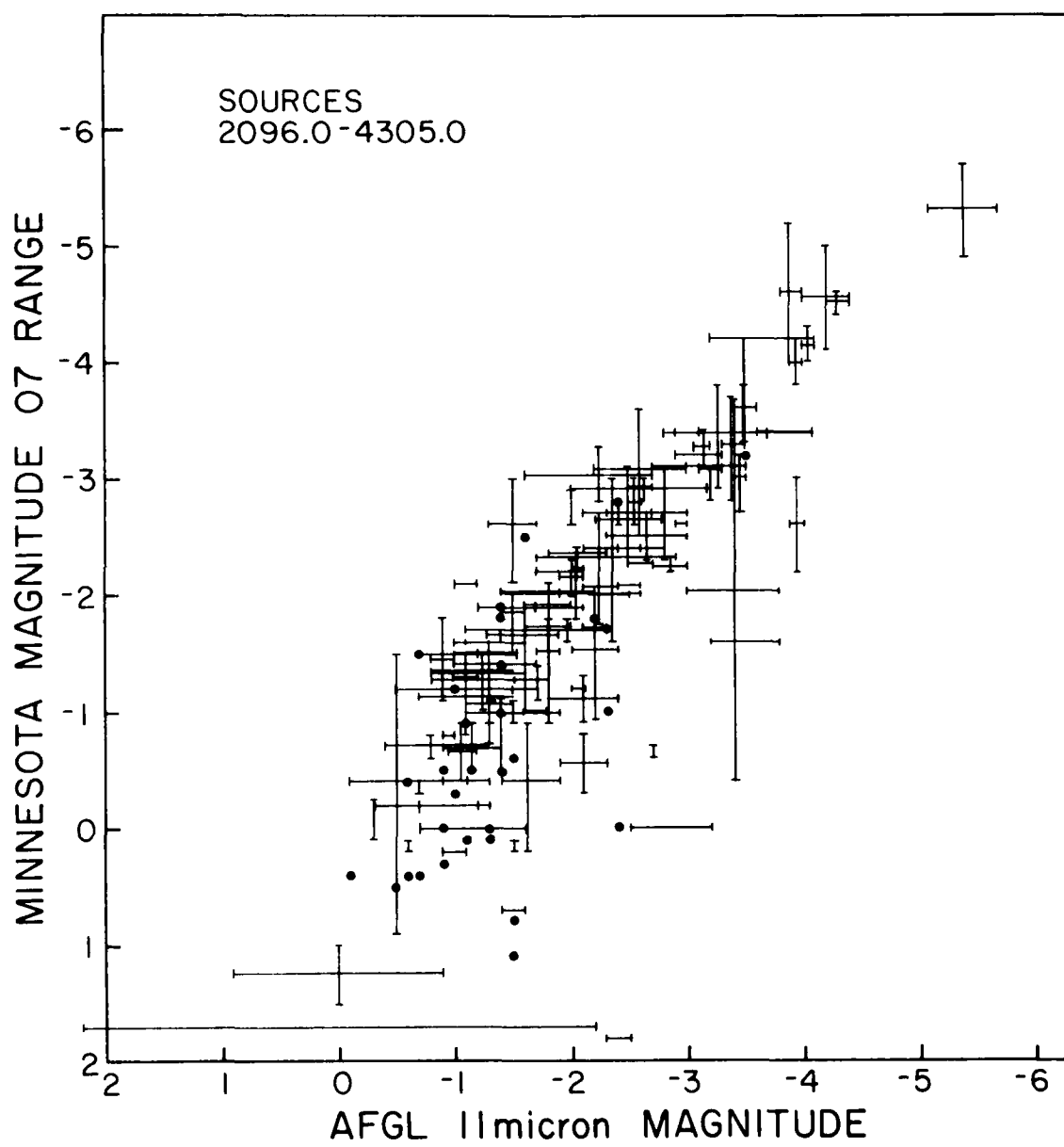


Figure 10

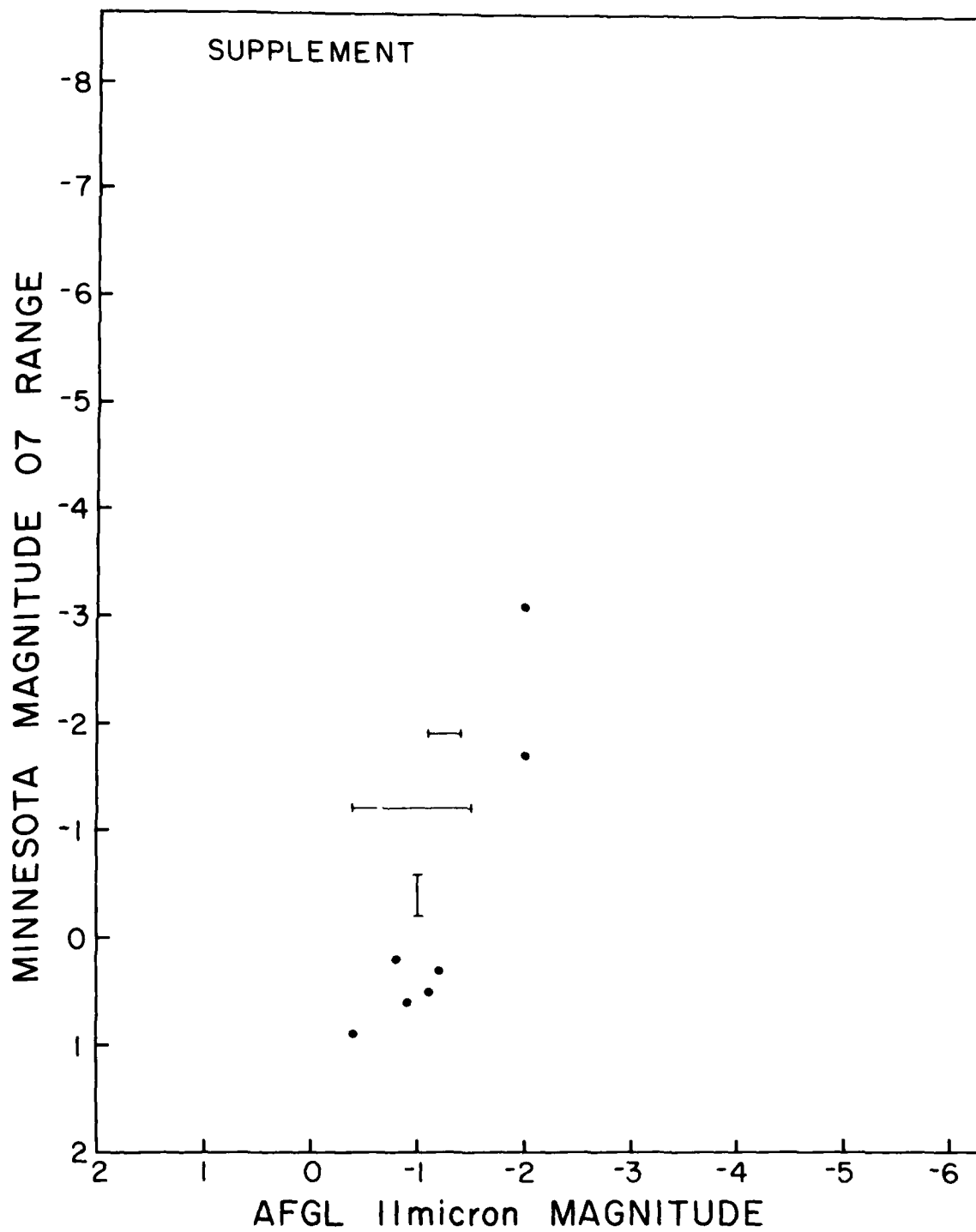


Figure 11



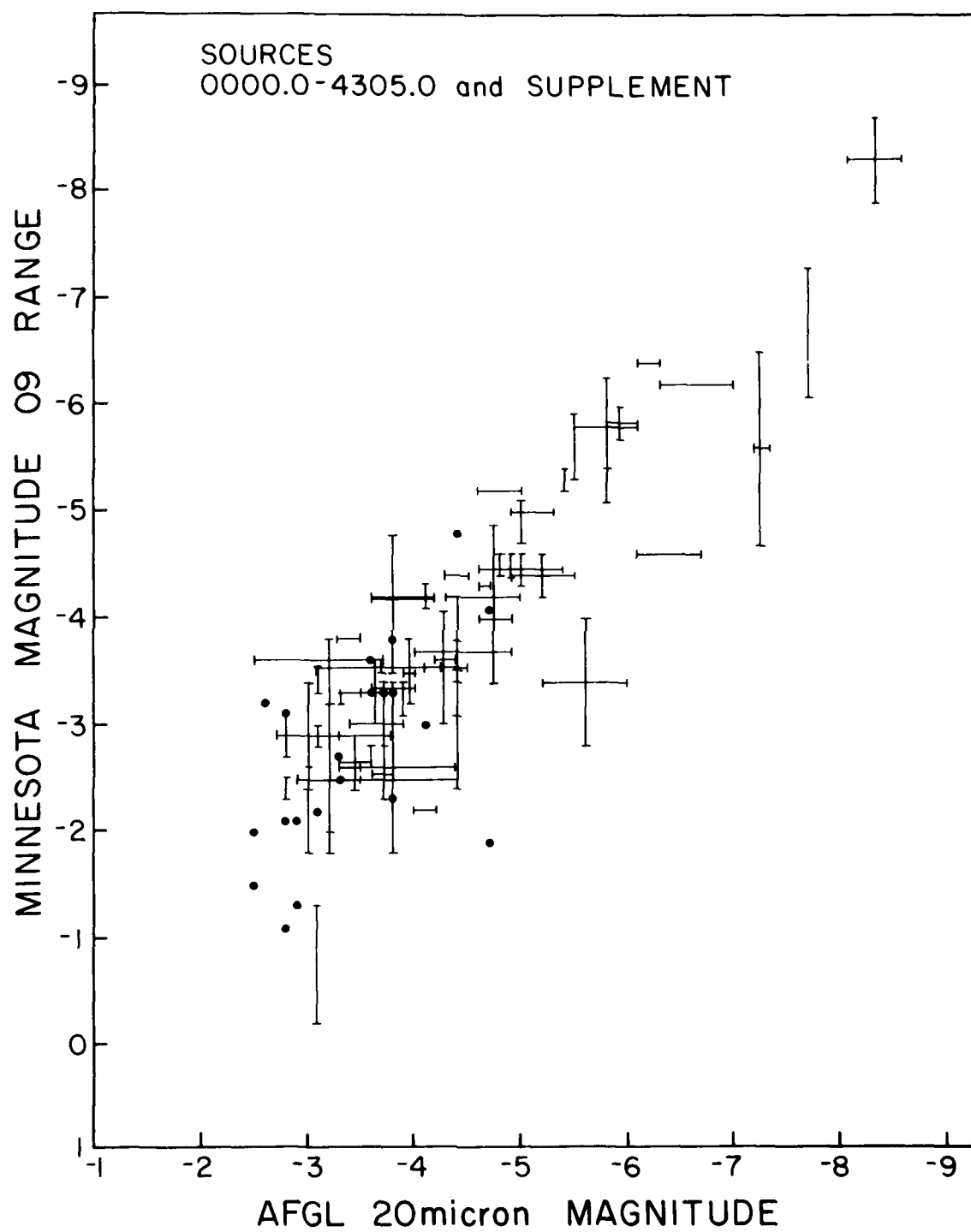


Figure 12

# References:

- Gillett, F.C., Forrest, W.J., Merrill, K.M., 1973, Ap. J. 183, 87.
- Merrill, K.M., 1977, in Proceedings of IAU Colloquium 1142, "The Interaction of Variable Stars with Their Environment," Veroff Bamberg 11, (12), 446.
- Merrill, K.M., Ridgway, S.T., 1979, Ann. Rev. Astron. Astrophys. 17, 9, (R. Kippenhahn, J. Rahe and W. Strohmar [eds.]).
- Merrill, K.M., Russell, R.W., Soifer, B.T., 1976, Ap. J. 207, 763.
- Merrill, K.M., Soifer, B.T., Russell, R.W., 1975, Ap. J. (Letters) 200, L37.
- Merrill, K.M., Stein, W.A., 1976a, Pub. A.S.P. 88, 285.
- Ney, E.P., Merrill, K.M., Becklin, E.E., Neugebauer, G., Wynn-Williams, C.G., 1975, Ap. J. (Letters) 198, L129.
- Russell, R.W., Soifer, B.T., Merrill, K.M., 1977, Ap. J. 213, 66.